

Natural Gas Politics in the Southern Cone

A comparative study of goal attainment in the gas sector in Argentina, Bolivia and Brazil

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The responsibility for possible errors in the following text remains mine.

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Abbreviations

ALBA: The Bolivarian Alternative for the Americas

ANP: National Agency for Petroleum, Natural Gas and Biofuels (Brazil)

CBH: Bolivian Chamber of Hydrocarbons

CEDLA: Centre for Studies of Labour and Agricultural Development (Bolivia)

CLICeT: Latin American Centre for Scientific and Technical Investigations (Argentina)

CNPE: National Council for Energy Policy (Brazil)

CPE: The Bolivian Constitution

ECLAC: Economic Commission for Latin America and the Caribbean

EIA: U.S. Energy Information Administration

Enarsa: Energía Argentina Sociedad Anónima (Argentine oil and gas company)

FDI: Foreign Direct Investment

FTAA: Free Trade Area of the Americas

GNEA: Pipeline of North-Eastern Argentina

IAPG: Argentine Institute of Petroleum and Gas

IBP: Brazilian Institute of Petroleum, Gas and Biofuels

IDH: Direct tax from hydrocarbons

IEA: International Energy Agency

IMF: International Monetary Fund

IOC: International Oil Company

LNG: Liquid Natural Gas

MAS: Movement towards Socialism (Bolivian political party)

MERCOSUR: Common Market of the South

NOC: National Oil Company

PAC: Program for Growth Acceleration (Brazil)

PDVSA: Petróleos de Venezuela Sociedad Anónima (Venezuelan oil and gas company)

PND: National Development Plan (Bolivia)

PT: Workers' Party (Brazilian political party)

UNASUR: Union of South American Nations

YPF: Yacimientos Petrolíferos Fiscales (Argentine oil and gas company)

YPFB: Yacimientos Petrolíferos Fiscales Bolivianos (Bolivian oil and gas company)

1 Introduction

*El subsuelo también produce golpes de estado,
revoluciones, historias de espías
y aventuras en la selva amazónica*
Eduardo Galeano¹

Energy security is a core concern of all governments. Access to enough energy to cover the population's basic needs for electricity and transport is important along with the vast amounts of energy needed for economic development and any kind of industry. Energy resources are not equally distributed among countries, some countries depend heavily on energy imports to cover their needs. It is however not a given that countries with abundant energy resources will succeed in developing these resources and manage to export energy to the countries in need of imports. By studying the management of energy resources in resource-rich countries it is possible to find keys to increase development and exports and subsequently improve the overall energy security.

Hydrocarbon resources include both oil and gas. The two products can often be exploited from the same well, and many reserves of natural gas are found in oil exploration projects, so called associated gas (IEA 2003:28). Natural gas is currently used as fuel for electricity generation, industry and transportation. It is thus a product that competes with other energy products such as oil, coal, ethanol and renewable energy sources. In contrast to many of its competitors, natural gas has low energy density, it has to be produced where it is found and due to high costs its development and production depend on an already existing demand in the market it is to be transported to. Yet in spite of its rather troublesome and inflexible development process, the use of natural gas as an energy source is increasing, especially due to rising oil prices and the environmental gains from substituting polluting oil and coal with less polluting gas (IEA 2003:23). The countries hosting large natural gas reserves could therefore benefit economically from developing their gas. Such development would increase the overall energy security and could

¹ From the book *Las Venas Abiertas de America Latina*. English translation of quote: *The subsoil also produces state coups, revolutions, spy thrillers and adventures in the Amazon* (own translation)

contribute to social and economical development in the resource-rich countries, depending on how the resource development is regulated.

1.1 Regional Focus

According to the book “South American Gas - Daring to Tap the Bounty” published by the International Energy Agency (IEA) in 2003, the South American continent has abundant natural gas reserves and the potential to become one of the largest gas exporting regions in the world (IEA 2003:13-14). Many of the countries holding the greatest natural gas reserves have however not increased their production and export noteworthy since IEA wrote its report in 2003. This lack of development does not stem from a lack of goals and awareness of possibilities connected to the development of the gas sector in these countries. In fact, many of the resource-rich South American countries have clear economic, strategic and social goals in the natural gas sector, but the attainment of these goals vary between the countries. The aim of this study is to analyze the policies in the natural gas sector in three different countries in order to explain why countries have varying goal attainment in this sector.

The IEA (2003) especially mentions the Southern Cone region’s possibilities in natural gas development. The term Southern Cone is used to describe the six southernmost countries in South America; Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay. The area is rich on natural resources and has for centuries been exporting minerals and agricultural products to the rest of the world. Also hydrocarbon resources are abundant in the region, with Argentina, Bolivia and Brazil holding major reserves. These three countries have chosen different approaches to the development of these resources, and this study will be based on in-dept case studies of the natural gas sectors in Argentina, Bolivia and Brazil.

1.2 Goals of the State in the Natural Gas Sector

It is possible to study the area of natural gas politics from numerous theoretical angles. Economical, social and anthropological issues and problems are abundant. In political science natural gas politics are relevant to many sub-disciplines, especially the areas of

international relations and public policy analysis. This thesis will mainly focus on the goals of the states in the natural gas sector and whether they manage to attain these goals. I will thus mainly use theory on policy analysis, but the international and economical aspects are also necessary to include in the analysis in order to understand the different interests and forces driving the development of the natural gas sector. This sector is also a policy area that is dependent on and affected by developments in other countries and the world market, it is therefore interesting to include theory from different parts of the political science universe in order to understand the complexity in this national policy area that is often at the same time a part of foreign politics.

In almost all countries the state has goals connected to the exploitation of natural resources. The different goals and the hierarchy between them depend on the government and vary according to the ruling political majority. Different interests and ideological assumptions influence the will of politicians and their interest in changing the current framework. The government can initiate several political measures in order to reach its goals. The structure of the policies initiated forms the governance model for the natural gas resources. Both legislation and institutional framework vary between countries and are available for changes if the political majority find it in the interest of their energy politics to do so.

This thesis will not explain how goals are formed, the focus will be on the implementation process after the formulation of the goals, aiming to explain why some goals are successfully attained while others are much harder to implement.

1.3 Research Question

The research question of this study is:

What can explain states' goal attainment in the natural gas sector and the differences in such goal attainment between states?

In order to answer the research question, I will first of all conduct an in-dept case study of the natural gas sectors in Argentina, Bolivia and Brazil. The focus will be on which and what kind of goals the state has in the natural gas sector and whether these goals have

been attained. I will thereafter outline the different explanatory variables in each case and analyse how they can explain and help to understand the success or lack of success in the gas sector in the three countries. The analysis will compare the goal attainment in each country, aiming to explain the differences in goal attainment between the three countries.

1.4 Comparative Aspects and Previous Studies

The three countries that have been selected in this case study are all countries in the Southern Cone that became democratic as late as in the 1980's. After years of dictatorships the three countries were all heavily indebted by foreign debt, and structural adjustment programs led by the International Monetary Fund (IMF) were initiated. These programs promoted neo-liberal reforms with privatisation of several state-owned enterprises and industries. Public expenses were cut in order to stagger galloping inflation and the countries were opened to foreign direct investment (FDI)².

Argentina, Bolivia and Brazil differ from each other in terms of size, economical development and industrialisation. They have however similar challenges when it comes to corruption, poverty and political unrest. Their political history is also quite similar and they have all had a new political orientation towards the left the last decade. In the area of energy the three countries have grown increasingly interdependent since democratisation and the formation of MERCOSUR³ in 1991 (Mares 2004).

Previous studies of the natural gas sector in the Southern Cone emphasise the three countries as the possible exporters of natural gas in the region. Studies conducted until 2003 are generally positive when analysing the development of natural gas in the three countries, foreseeing a region that is on its way to becoming energy sufficient (Honoré 2004, IEA 2003, Mares 2004). After the energy crisis in Argentina in 2004 and the election of Evo Morales in Bolivia in 2005 however, the studies published are notably less positive to the development in these two countries. Brazil has lately discovered great

² Information about each country is available through IMF's homepage. URL: <http://www.imf.org/external/country/index.htm>

³ Mercado Común del Sur (MERCOSUR) was established as an organisation for free trade between Argentina, Brazil, Paraguay and Uruguay in 1991. It has now more members and Bolivia and Chile are associated members. MERCOSUR is considered one of the most important organisations for cooperation in South America (MERCOSUR 2010).

offshore reserves of oil and gas, and this country is still seen as a potential great exporter in the region (Mares 2006, Mares 2009).

Many of these studies focus on the possibilities for regional integration through gas (Honoré 2004, Mares 2006). It is important to notice that the natural gas policy of one country in this region is not independent of the decisions taken by the neighbouring countries. Such interdependence is often a good start for neighbouring countries to cooperate and start an integration process. In order to include this international aspect of the gas politics in the three countries in the thesis, the impact of the development in the gas sector in Argentina, Bolivia and Brazil on the energy integration between the three countries will be analysed after the comparative analysis in chapter four.

Many studies of South American politics are conducted as development studies with the initial notion that development countries are different from the countries studied in classical political science; the USA and Western Europe. In this thesis I want to use theories developed in the USA and Western Europe to study Southern Cone politics. I do this arguing that the political processes, especially when it comes to natural resource management, are the same in these countries as in the post-industrialised countries where the theories were developed. I also argue that the differences between the two groups of countries are not as important as the similarities, but it is likely that some factors have stronger or weaker effects in the Southern Cone than they would have in Western Europe and the USA. I will combine three different theories in the theoretical framework of this thesis. The analytical model will have both general and sector specific variables for analysing goal attainment, and integration theory will enable me to also study international aspects of the gas sector in the Southern Cone.

1.5 Structure of the Thesis

The next chapter will outline the theoretical and methodological framework of the thesis. The special characteristics of the natural gas sector will be presented. Implementation theory and Bernard Mommer's (2002) model on natural resource ownership will be presented as the framework for the first part of the analysis. Implementation theory will provide the main variables that influence goal attainment within each country and the

analytical model will thus be based on this theory. The analytical model will also reflect that the natural gas sector is different from the sectors where implementation theory was developed, and the model on natural resource ownership will provide sector specific variables to be included in the analytical model. For the second part of the analysis in chapter four, a different theoretical approach is needed. Integration in the gas sector can be a goal for the individual state and it is at the same time a process where countries cooperate across borders. As a goal or as a process, integration requires involvement and coordination between states; it is not possible for one state to attain integration alone. The theories mentioned above focus on policy analysis within one state, and I need a theory of international relations in order to analyse the integration between the states in the gas sector. As presented in the theoretical approach below, the framework for the second part of the analysis will be the neofunctionalist theory on integration and its relevance for studies of integration between countries in the Global South.

In the last part of the next chapter a short methodological discussion will follow. The case study approach will be outlined and aspects of sources and data collection will be discussed. There will also be a discussion emphasising the questions of validity and reliability.

Chapter three will present each of the three case studies and an introduction to the analysis of each case. The cases are structured in order to ensure comparability and they will be presented in alphabetical order. Chapter four will then analyse the cases in a comparative perspective and comment on the findings in the study based on the research question presented above and the analytical model. The second part of the analysis will draw the line from the national level in the comparative analysis to the different aspects of integration between the three case-countries in the gas sector. The fifth and last chapter will conclude on the findings and comment on whether the research design has been adequate and fruitful.

2 Theoretical and Methodological Approaches

This chapter will first give a short introduction to natural gas, explaining what specifies gas as a resource and how the gas sector is different from other policy areas. The three theories that construct the theoretical framework of the analysis will be presented, and their relevance for this study will be outlined. An analytical model for the study of each case and the comparative analysis will be discussed and developed on the basis of implementation theory and governance model theory⁴. Integration theory will be presented as the framework for analysing aspects of integration in the gas sector between the three case-countries. The operationalisation of the variables in the analytical model will be presented as the last part of the theoretical approach. The second part of the chapter will discuss the relevant methodology, data and sources for this study as well as present and discuss challenges to reliability and validity.

2.1 What Distinguishes Natural Gas?

Natural gas is a natural resource found in underground reservoirs on land or under the seabed. It is a hydrocarbon resource and is thus non-renewable; exploitation and use of natural gas diminishes the total amount of the resource in the world. As is the case with many non-renewable resources, natural gas is considered a scarce commodity and the owner of gas resources can expect a profit from exploitation of the resources as long as there is a demand. The income the owner gets from the development of the resource is called ground rent or resource rent. Resource rent is “the difference between the price at which an output from a resource can be sold and its respective extraction and production costs, including normal return” (Sinner and Scherzer 2007:281). The rent is thus the profit one can earn from selling the resource that exceeds the normal profit one can expect from selling ordinary goods. If the owner of the resource is not the one that extracts and sells the resource, the owner can collect the ground rent from this operator, who nevertheless earns a normal profit. In most cases where the state is the owner, the rent is collected

⁴ I choose to give Mommer’s (2002) model on natural resource ownership the name “governance model theory” as it makes it easier to refer to this theory in the text.

through taxes and royalties. “[R]ent is contingent on market conditions, technology and the system of property rights used to govern access and management” (Sharp quoted in Sinner and Scherzer 2007:285). This is important to keep in mind when studying a sector with such a possibly high resource rent as the natural gas sector.

In almost all countries subsoil resources are considered national property and the owner of natural gas reserves is therefore in most cases the state. Natural gas resources are unevenly distributed among states, and since it is a scarce resource it is important for the states without resources that the states with resources are able to develop and export their gas. If one considers natural gas a national property it is also important for the resource-rich countries to develop their gas in a way that benefits the nation (Mommer 2002). But development of natural gas resources requires great investments. The sector is seen as an economy of scale in both production and distribution. This means that large investments have to be made before the first unit of gas can be produced and distributed, but once the first units are produced and transported, the investment needed for the production and distribution of the latter units is very low. Thus; the higher the production the higher the profit rate. Economies of scale can create natural monopolies, the gas sector is considered a natural monopoly both upstream and downstream. A natural monopoly exists where having only one producer is the most economically efficient solution and free competition only can function if state regulation prevents monopoly (Julius and Mashayekhi 1990:1).

It is difficult to know exactly how much gas can be extracted from one well, and estimations are therefore frequently conducted in order to find reserves that will yield profits in the long run. The estimated total reserve in one country is consequently often adjusted. Since oil and gas are often extracted from the same wells, the natural gas sector is difficult to separate from the oil sector when it comes to upstream production. Natural gas extracted from oil wells is called associated gas (IEA 2003:28). Downstream however, gas is much more difficult to distribute than oil. The main distribution of gas is through pipelines linking the seller to the buyer. These pipelines are expensive to construct and it is unlikely that such a transportation system will be developed unless the developer expects secure supply and demand of gas. In contrast to the case of oil, there is no “world price” of natural gas; the price is usually set in negotiations for long-term contracts between seller and buyer (Julius and Mashayekhi 1990:1-2).

All these aspects make natural gas a special commodity. The resource rich countries can expect to get a quite high ground rent from exploitation of the resource, but it is also necessary to attract investors that are willing to exploit the natural gas on terms acceptable to both parties. As all natural gas development requires high technological and geological expertise, the possible explorers and exploiters in the sector are mostly big, international oil and gas companies (Julius and Mashayekhi 1990:1-2). The government's understanding of the possibilities and limitations that are special to the natural gas sector can determine whether the state is able to attain its goals in this sector. But also the process of implementing the policy leading to goal attainment has specific steps, and when it comes to what determines the success of each step, natural gas is not expected to be very different from other policy areas.

2.1.1 Implementation Theory

J. L. Pressman and A. Wildavsky launched implementation theory in 1973 as a new approach to the study of public policy. The aim of their research was to study whether and how public policy was implemented, from the decision making of politicians to the administration and outcome at the local level. They often found a weak coherence between the decision and the outcome; the goals of public policy were rarely attained and if attained they were often distorted (Kjellberg and Reitan 1995:131-132).

Implementation theory is usually divided in two sub-approaches. The initial focus of Pressman and Wildavsky and the subsequent studies building on their work has been named the “top-down” approach because of its focus on the role of the decision makers and how their decisions are implemented at the local level, with the final aim of determining goal attainment. The “bottom-up” approach came as a reaction to the original implementation theory of Pressman and Wildavsky, criticising it for neglecting the influence of other actors besides the top decision makers (Sabatier 1986:30). This new approach focused on the implementers, the ones responsible for implementing the policy at the local level. The bottom-up theorists saw policy implementation as a process where actors at the local level were as important in formulating goals and policy as the top politicians. Bottom-up studies often started at the other end of the implementation line,

studying local level bureaucrats before studying the policy formulation at government level (Kjellberg and Reitan 1995:153).

Several scholars have noted that this division between top-down and bottom-up is rather confusing, arguing that the two approaches should be seen as complementing each other, rather than competing. Kjellberg and Reitan's (1995:132) review of public policy theory discusses these aspects of implementation theory and, in order to avoid the competing division between the two approaches they choose to name them the "decision oriented" approach and the "process oriented" approach, distinguishing the different focuses of the two approaches, but leaving room for the possibility of integrating both focuses in the same study (Kjellberg and Reitan 1995:132).

Also Paul A. Sabatier's much-sited article from 1986, "Top-Down and Bottom-Up Approaches to Implementation Research: a Critical Analysis and Suggested Synthesis", reviewed the implementation research and saw its two main approaches in connection. As Sabatier noted, the two approaches aim to answer different kinds of questions and focus on different aspects of the implementation process. In Sabatier's analysis of the comparative advantage of the two approaches, he reaches the conclusion that the top-down oriented approach is a more useful point of departure "in cases where there is a dominant public program in the policy area under consideration or where the analyst is solely interested in the effectiveness of a program" and "where a single public agent clearly dominated the field" (Sabatier 1986:36). Under the same section Sabatier notes the comparative advantages of the bottom-up approach in cases where there are many different actors and various local levels and where there is no dominant legislation or power hierarchy (Sabatier 1986:36-37).

It is important to notice that implementation is a dual expression. It includes both the act of implementing the decided policy and the final attainment of the goals that came prior to the policy formation. The implementing part may be successful without attaining the desired goals and results. This is mainly because several factors influence the final outcome of a policy implementation process (Lane 2000:97-98).

Based on Sabatier's theoretical outline, I will in this study of the Southern Cone natural gas sector mainly use the top-down oriented approach as my analysis guideline. This

approach poses many of the same questions that I find interesting and want to study, in addition the politics of the natural gas sector is national rather than local and legislation is the main measure used by governments to attain their goals in this sector.

2.1.2 Governance Model Theory

Before outlining the analytical model for the study of the natural gas sector in my three cases, it is useful to try to identify the actors in this sector and their options. Bernard Mommer (2002:3) identifies four groups of actors. First of all there is the owner of land and resources. As established in the beginning of this chapter the owner of the natural gas is often the state, this is also the case in my three case-countries. Second, there are the producing companies wanting and willing to invest in the development of the resource. Third are the consumers that are willing to buy the final gas product, this can be private or public industry, households and companies. The fourth actor in Mommer's review is the government. The government often has a double role as owner and rent collector on the one hand and policy maker and legislator on the other hand. The various actors have different roles and options depending on the governance and ownership model in the natural gas sector.

In almost all countries the state owns the natural gas resources, but how the state chooses to exercise this ownership varies significantly. States can choose between different models for governance of natural resources. Mommer (2002) has studied the governance and regulation of minerals, including hydrocarbon resources. According to Mommer (2002:89) there are three main governance models. The first distinction is between private and public governance, and he thereafter distinguishes between non-propiertorial and propriertorial public governance. As all the cases have public governance, the latter two will be relevant to this study.

Non-propiertorial public governance “is about facilitating a free and frictionless flow of investment into the reservoirs” (Mommer 2002:89), meaning that the state is owner and facilitator, and that market powers are allowed to function due to state regulation. In this ownership model the minerals are seen as “a free gift of nature not to some local or national community but to humanity” (Mommer 2002:103). With non-propiertorial

governance the owner does not require the investor to pay for the access to the resource. The income the state achieves from the resource exploitation is only some form of excess profit taxation (Mommer 2002:90). Since the profit from natural gas is usually greater than what can be expected from other investments, the government taxes this excess profit through income tax.

Proprietorial public governance on the other hand, involves a much more active state ownership of minerals (Mommer 2002:95). Here, the minerals are seen as national property and are “supposed to serve the economic development of the country” (Mommer 2002:233). The proprietorial governance is interested in maximising the international ground rent from the natural gas. The extreme form of proprietorial governance is full nationalisation, the state is then both owner and investor through a national oil and gas company that has monopoly on production, and the state thus collects 100% of the profits (Mommer 2002:97).

According to Mommer (2002:2-3), minerals that are in short supply and found at great depths (subsoil) require a different governance structure than easily accessible minerals in order to have successful development and production. Since natural gas is a resource with natural monopoly both upstream and downstream (Julius and Mashayekhi 1990:1), public ownership of the reservoirs is more likely to yield successful results (Mommer 2002:2). A stability in governance is also likely favourable to success, and “the stability of public mineral governance depends not so much on the economy but on the political, legal and institutional structure of the country” (Mommer 2002:230). As mentioned, ownership of natural resources is already public in almost all countries. This would be very costly to change, both politically and economically, so the privatisation frequently talked about in the natural resource sectors has to do with privatising the industry, not the ownership. The choice of governance model stands thus between non-proprietorial and proprietorial public governance (Mommer 2002:230).

In the studies to develop Mommer’s theory on hydrocarbon ownership, it becomes clear that non-proprietorial governance first and foremost benefits the large consuming countries. Especially when the resource-rich countries are economically weak and/or unable to negotiate successfully for their own best interest, the neoliberal model implying

non-proprietary governance returns very little of the value of the reserves to the owner since foreign investors keep most of the profits (Mommer 2002:232-235). Where the proprietary model gives countries the opportunity to control the development of their hydrocarbon resources and engage in profitable partnerships with foreign investment, the non-proprietary model limits them to being grant givers to foreign investors, and thus being “stripped of their eminent domain rights, as previously happened in colonial times” (Mommer 2002:253).

2.1.3 Integration Theory

The development in the natural gas sector in one of the countries in this study is not independent from the development in the other two countries. This interdependence is not unique to the three countries or the gas sector, and many scholars have pointed out that this kind of interdependence in a sector can be a starting point for regional integration between states.

The main integration theory addressing sector interdependence is neofunctionalism. To neofunctionalists, the actors in the integration process are vital. Actors, mainly governments and voluntary associations, drive the process forward, and the actors’ *perception* of reality and what would be best for the country is important (Dokken 1997:130-131). Neofunctionalists see integration coming from economic and political interdependence, the integration starts in one sector, such as economical cooperation, and then *spills over* to other sectors. In using this theory on West African integration, Karin Dokken (1997:133-134) also suggests including environmental interdependence as a driving force to integration, since this interdependence is more obvious in the Global South⁵. Within environmental interdependence Dokken includes “fields such as exploitation of natural resources, agriculture, and environmental protection” (Dokken 1997:134).

In Dokken’s (1997) theoretical model for analysing integration in the Global South, she includes high politics areas early in the integration process. High politics areas concern

⁵ Karin Dokken uses the expression “Third World” in her book. In order to have a consistent use of concepts throughout the thesis, I have chosen to use the expression “Global South” instead. This is also the expression these countries often use when referring to themselves as a group.

vital national interests such as security and foreign affairs (Dokken 1997:14). Energy security can be included as one of these areas. In this study it is interesting to analyse how the interdependence in the natural gas sector in Argentina, Bolivia and Brazil has affected the regional integration between these countries.

According to Dokken “there is no generally accepted definition of integration” (Dokken 1997:113). It is however necessary to define integration in order to know what I am looking for in the analysis. I therefore choose to use Dokken’s own definition and the specification by Andrew Moravcsik she uses to specify the concept of integration:

“I conceive of integration as a process of creating cohesion between two or more social units whereby these units come to constitute a political whole which can in some cases be described as a community (Dokken 1997:114). According to Andrew Moravcsik

(a) broader definition of ... integration might consider four dimensions of policy co-ordination: 1)the *geographical scope* of the regime; 2)the *range* of issues in which policies are co-ordinated; 3)the *institutions* of joint decision-making, implementation and enforcement; 4) the *direction and magnitude of substantive domestic policy adjustment*” (Moravcsik quoted in Dokken 1997:114, emphasis in original).

2.1.4 Analytical Model

My main aim with this study is to find out whether and why the goals formulated by states are attained. With an implementation theory model I will be able to find the main independent variables influencing goal attainment. Many of the models in implementation theory are quite complicated, they include many variables and are difficult to use in a comparative case study. In 1979 Mazmanian and Sabatier aimed at developing a model for the study of implementation. They soon found that their initial model would be too complicated to work with and decided to simplify the model to make it clearer and more applicable. Against this background they outlined a model of six explanatory variables for the study of policy implementation (Sabatier 1986:23). I will base my analytical model on these six variables as they were repeated in Sabatier’s article in 1986:

- 1) Clear and consistent objectives.
- 2) Adequate causal theory.
- 3) Implementation process legally structured to enhance compliance by implementing officials and target groups.
- 4) Committed and skilful implementing officials.
- 5) Support of interest groups and sovereigns.
- 6) Changes in socio-economic conditions which do not substantially undermine political support or causal theory. (Sabatier 1986:23-25).

This analytical model was mainly developed for studies of social policy programmes and their implementation in different municipalities after the central government had developed a framework. It is therefore necessary to adjust the model to this particular study of natural gas politics and I will make some changes in order to create a fruitful model for my analysis.

The first variable, *clear and consistent goals*, was later rejected by Sabatier (1986:29). After analysing 20 studies that used the above analytical model outlined by Mazmanian and Sabatier in 1979, Sabatier finds that the “emphasis they placed on clear and consistent policy objectives was a mistake” (Sabatier 1986:29). In this study it will however be important to know what the goals are in order to analyse their attainment. I will therefore group possible goals in categories below and in the case studies only include the goals that correspond to the categories.

The second variable is an *adequate causal theory*. According to Pressman and Wildavsky (quoted in Sabatier 1986:23) all “policy interventions incorporate an implicit theory about how to effectuate social change”. If measures that in theory should yield goal attainment are successfully implemented without attaining the desired results, the theory may have been wrong about the causal relationship between policy measure and goal attainment. In this study this variable is difficult to measure since so many factors influence the final policy. It will however be interesting to look at the political ideology behind the policy, as different ideologies often give different solutions to reach the same aim. It is here relevant to draw on Mommer’s (2002) studies, expecting that measures based on a neoliberal political view will create “heavy losses in fiscal revenues [...] for the exporting countries”

(Mommer 2002:235). I can expect that the governments in my study that are anti-neoliberal will prefer a proprietorial public governance model for their policies in the natural gas sector.

The third variable has to do with how well the policy is incorporated in the laws of the country. The natural gas sector does not have the same structure of various local actors and implementers as the typical welfare sectors studied by most implementation theorists. In my study it will be the hydrocarbon law of each country that is relevant to analyse in order to decide whether the state's goals are actually incorporated in this law, and if the law states who is responsible for the implementation of these goals. It is expected that the implementation of a policy is more successful if the policy is legally structured.

The forth variable is *committed and skilful implementing officials*. The implementing officials in this study are the ones within the government, in the concession agencies and in the national and international oil and gas companies that are working to implement the goals. It is not possible to find out if each and every one of these officials is committed and skilful. From the analysis of the above variable, it will however be clear which officials and agencies are responsible for the implementation of the natural gas policy, and an analysis of the general performance of these officials and agencies will give a good indication of their skills and commitment. Corruption scandals, frequent changes in staff and leadership and delays in projects are examples that indicate low commitment and skilfulness and can thus be expected to slow the process of implementation.

The fifth and sixth variables of Mazmanian and Sabatier will be combined in one variable in this study. These variables recognize that political support from interest groups and legislative and executive sovereigns have to be maintained throughout the implementation period. Lack of political support in the people or interest groups and/or in the legislative or executive power can undermine the whole policy. Support from stakeholders, being the electorate, the industry or others will probably increase the possibility of goal attainment. External changes in socio-economic conditions, such as an international financial crisis, can influence this support and the causal relationship between means and ends (Sabatier 1986:25). Abrupt changes due to such problems again lead to instability and can create mistrust and fear among investors and producers, which damages the sector. Unforeseen

problems that arise either in the country or internationally can thus be expected to influence the goal attainment.

According to Mommer (2002:230) a stable governance structure is necessary for a successful development in the gas sector. The gas sector is, as mentioned above, a sector where development takes time, usually several years pass from the discovery of potential gas fields to profitable production of gas. The stability of the governance model in the sector can therefore be crucial for the success of projects. If there are great changes in the governance model, going from a proprietorial model to a non-proprietorial model or vice versa, the attainment of goals is expected to be more difficult as the conditions for investors and stakeholders become uncertain.

From the above discussion the following independent variables will be analysed in this study:

1. The political ideology of the government
2. The legislation in the sector
3. The skills and commitment of implementing officials and agencies
4. The political support
5. The stability of the governance model

In addition to the goal attainment and the comparative analysis, the integration between the countries in the natural gas sector will be analysed. The analysis will be based on the neofunctionalist theory with the amendments made by Karin Dokken (1997) as outlined above. The concept of spillover from the gas sector to other sectors is also central in David R. Mares' analysis of integration in Latin America from 2006. Mares (2006:92) sees the search for energy security as an important drive towards more cooperation and integration in Latin America. According to him "the potential for increased regional use of own energy and for integrating the economies in the region through energy networks is given"⁶ (Mares 2006:93, own translation), but several factors outside the energy sector have prevented integration. Mares (2006:96) sees the ideological conflict between

⁶ Spanish original: *El potencial para mayor uso de su propia energía en la región y para integrar economías regionales a través de redes de energía está dada.*

neoliberals and socialists as one of the main obstacles to further integration. Also conflicts within the countries have worked against integration. My analysis will mainly look at the four-year period after Mares published his article and how the development in the natural gas sector with the current governments of Argentina, Bolivia and Brazil has had an impact on integration.

2.1.5 The Dependent Variable

This study will focus on the goal attainment of the current governments in the three countries, but also the politics of the governments from 1990 and onwards will be briefly outlined in order to determine changes and development. *Goal attainment* is thus the dependent variable in this study, and in order to analyse goal attainment concrete goals have to be defined.

The state's goals in the natural gas sector are defined as the goals stated by the government, the president or the minister responsible for the sector in strategy documents, speeches and interviews. The main source of goals will be a natural gas strategy, a national hydrocarbon strategy, a national energy plan or an equivalent document of the government. Other official documents on natural gas, hydrocarbons and energy and speeches or interviews with the government on this topic will be supporting documents.

It is useful to look at natural resources as natural capital for the state. As a non-renewable natural resource, natural gas can thus be seen as a stock of capital that is available to the state that hosts these resources (Prugh 1999:49-50). However, the natural gas “yields essentially no services until it is taken out of the ground and converted into some useful form” (Prugh 1999:50). In order to categorise the different goals a state can have connected to its natural gas reserves, it is therefore relevant to find out what kind of services or values the gas can yield when extracted and used. Natural gas can essentially yield five different services and values and it is likely that the states have goals within each category. The five categories and examples of possible goals in each category are outlined here:

1) Energy goals. The most evident service natural gas can yield is energy. Natural gas is an energy source that can be used as fuel for machines, to generate electricity and be

burned for cooking and heating. The state can be expected to have goals related to energy security. For instance is self-sufficiency in energy a likely goal. This would mean that the country does not depend on energy imports and is less vulnerable to fluctuations in the world market prices for oil and coal. Energy security for the individual is another likely goal. This would guarantee access to sufficient energy for all households and industries in the country.

2) Economical goals. As inherent in the words "natural capital", natural gas is a source of income, a possibility to earn more money. An obvious economical goal would be to increase exports, as gas sale inside the country would only redistribute money and gas (Mommer 2002:88). Another possible goal would be to decrease the amount of the income that leaves the country by increasing the amount the state gains from the gas. This goal is especially relevant in countries where foreign investors are involved and can be expected to take their share of the profit out of the country. It is also an objective for the state to increase its share of the profit to gain better control of the economic development of the country. Also increased exploration and exploitation are economic goals. Natural gas reserves have a fixed amount of gas, and discovery and development of new reserves are therefore necessary to keep the income at the same level. Higher production would also increase the amounts of gas for exportation and thus increase the total income. Another possible economic goal is the build up of a supply industry for the upstream gas production and a production industry for products derived from natural gas, such as chemicals. This would increase the overall production and employment in the country (Likosky 2009:5).

3) Strategic goals. This set of goals has to do with the relative power of natural gas ownership. Both realist and radical perspectives in international relations find that natural resources give states bargaining power towards other states and increase their position in the power hierarchy of states (Mingst 2004:109). One possible goal for natural gas rich states would then be to use natural gas as a payment for other goods or services from other countries, or to obtain foreign policy agreements. Another goal can be regional or international influence. The state can use its gas riches and the power it gives to enhance their position as a regional or international leader. Another plausible goal, supported by functionalist theory, is to use the gas as a means for regional integration (Mingst

2004:160-161). As it is easier to export gas to neighbouring countries compared to countries far away, the development of a pipeline network can be an important step towards regional integration and cooperation, also in sectors not related to energy.

4) Social political goals. This type of goals is related to gas as a national property, the property of the people. That natural resources belong to the people and should be exploited to the benefit of the people has emerged as a strong argument in many resource-rich countries (Likosky 2009:8, 21-22). It can thus be expected that governments have social political goals connected to the natural gas sector. Possible goals here may be to use the revenues from the gas sector to alleviate poverty, reduce inequality, increase the quality and accessibility of education, health services and pension systems, create better infrastructure, better working conditions and increase the average purchasing power of individuals. Another likely goal is to provide free or subsidised distribution of energy to individuals and households that are not able to cover the real costs of such distribution.

5) Environmental goals. This last group of goals is related to natural gas as a cleaner alternative to oil and coal. Such environmental goals can be to increase the amount of gas relative to oil and coal in the national energy matrix. To decrease CO₂-emissions from vehicles and industry, and improve air quality are plausible goals.

These five categories of goals are not absolute or exclusive. Some goals are connected to each other and some can be placed under more than one label. Deciding the dependent variable, *goal attainment* is nevertheless easier when the goals are categorised. This opens for the possibility to analyse what kind of goals are the most difficult to attain and to see the links between the goals. For instance if the state has managed to increase its income from exports, it is hard to claim that there is no money to use for the implementation of social political goals. Goals from each category will be included in the study of each case. Unless there is no evident goal in one or more categories in the cases, or the states have more than one goal in each category, five goals from each case will be analysed.

The next step in the case study will be to determine whether the state's goals have been attained or are likely to be attained within reasonable time. Here it is necessary to revise reports and developments from the policy implementation in the sector in order to document what has been achieved. Any policy implementation will have an outcome, a

result. If this result is congruent with the goals, the implementation is successful (Lane 2000:109). The indicators for successful implementation and goal attainment thus vary according to the goal. For each goal in each case the outcome will have to be compared to the goal attainment indicators of that particular goal.

Each country can attain or partly attain some of its goals, while not attaining other goals. The success in the gas sector is complete if all the goals are fully attained. It is not likely that all the three countries have full goal attainment, and the main part of the analysis in this study will compare the goal attainment between the countries, aiming to determine which factors have contributed to the success and lack of success in the gas sector. The analytical model outlined above will be the structure of the comparative analysis.

Even if the goals are not exactly the same in the three countries, the goals will still be comparable if they are in the same category and approximately at the same level of ambition. It is evident that small and non-ambitious goals are easier to attain than very ambitious goals. It will therefore be necessary to compare the level of ambition of the goals in each category before comparing the goal attainment across the three countries.

2.1.6 Operationalisation of Independent Variables

The independent variables in this study are outlined in the analytical model above. In each case the five variables will be measured and the analysis will determine whether and how each variable has contributed to the goal attainment or lack of goal attainment in each country. The variables to be measured and analyzed in this study are quite complex. To find out whether a policy is incorporated in the laws of a country requires knowledge on how to read legal documents, but it is still easier to find an accurate measure for this variable, than to determine the “skills and commitment of agencies and actors”. Also the variable “political ideology” is difficult to measure. To analyse the coherence between stated ideology and political practice requires a discursive analysis that could easily fill a whole thesis of its own. The amount of “political support and stability” observed is also variable between observers, something that could severely weaken the reliability of the thesis. It is therefore necessary to outline a framework for the study with clear definitions

and operationalisations to minimise the risk of making mistakes that damage the validity and reliability of the study.

The political ideology behind the goals is as mentioned difficult to measure. In this study I will use the statements of the president and the political parties in the government to decide whether the government is positive or negative to neoliberal ideology. The governments that are positive to neoliberalism and its solutions in public policy can be expected to prefer a non-proprietary governance model for the natural gas sector, and the state can then be expected to control less of the income from the sector. With less income, it can be expected that the state will have problems with attaining social political and economical goals. A clear division between globalisation friendly and anti-globalisation countries has emerged in Latin America the passed decade. Globalisation friendly countries are oriented towards the USA and positive to the IMF and the World Bank. The anti-globalisation countries are negative to US American⁷ influence in Latin America and support cooperation between the Latin American countries against a capital driven globalisation (Mares 2006:90). The latter group is expected to be in favour of a proprietary governance model in the natural gas sector.

The degree of legislation can mainly be decided by studying the hydrocarbon laws of the country. The first step will be to find out whether the country has a hydrocarbon law. Thereafter it will be necessary to study whether the goals of the state are incorporated in the law. If the government communicates that new goals have been formulated without following this with changing or amending the law, it can be expected that these goals are more difficult to attain than if they had been legally framed. If the law contains a time frame for implementation and clearly states what entity is responsible for the implementation of the goals, it is more likely that the goals will be successfully implemented.

The agencies and actors involved in the implementation of goals have varying skills and commitment. Units to study here will be ministries, secretariats, agencies and national oil and gas companies. Referring to the legislation variable above, the entity that according to

⁷ In Latin American Spanish the word “American” often refers to the whole continent and there is a different adjective for the English “American” referring to the USA, I will therefore use the term “US American” in this thesis to make the distinction clear also in English.

the energy plan and the law is responsible for the implementation of the goals, will be the most relevant entity to analyse here. It is expected that units that have existed for a long time have developed more knowledge and expertise than new institutions. A large entity with much experience in the gas sector can be expected to have better implementation skills than small and inexperienced entities. The ability to finish projects within the decided timeframe also indicates whether the institution has the skills and commitment necessary to comply according to plan. Corruption scandals and frequent changes in the leadership and staff indicate low commitment to the attainment of goals. It can also be expected that national oil and gas companies (NOCs) will feel a stronger commitment to the state and attaining the state's goals, especially if the state owns all or the majority of the company.

Political support in the electorate is usually measured through elections and opinion polls. It can however be difficult to find such measures especially on support for the natural gas politics. Support to the government in general can be used as an indicator for support for the government's overall politics, also in the natural gas sector. The general support for natural gas politics is often written about in articles and reports, so it will be possible to find information in different written sources that together will give a good picture of the situation. Support among interest groups will be manifested through these groups. In a sector like natural gas, it is relevant to analyse the support from the industry in the sector, whose working conditions, investment and planning possibilities and profitability are all influenced by the government's natural gas policies. The industry's business associations represent many of the actors and implementers in the sector, and their support may be crucial for the implementation of the policies and attainment of goals. Support in the national assembly will be covered by the legislation variable, as the national assemblies will give its consent to new hydrocarbon policies by approving new legislation for the sector.

Stability in this study will be determined as the stability in the governance model for natural gas. It is likely that countries that have varied between non-proprietary and proprietary governance are less likely to attain their goals since the natural gas sector is dependent on predictability, trust and established structures to function optimally.

2.2 Methodological Approach

The aim of a methodological framework is to ensure that certain norms are followed in the research process of finding answers to empirical questions. The most important of these norms are accuracy, truthfulness, non-biased selection and a presentation of the results that allows control and criticism (Hellevik 2002:14-17). The methodology should present a research design that incorporates the norms in the best way possible and that can adequately answer the research question. This section will outline the case study design for this thesis. The selection of data and sources will be presented, followed by a discussion of possible challenges to validity and reliability.

Given that this study is based on secondary information about ongoing processes, that some aspects are highly uncertain and many times dependent on developments outside the reach of the actors in each case and most definitely out of my reach as a researcher, the risk of errors will always be present. The study of human behaviour can however never be absolutely accurate, and uncertainty about the results of the analysis will therefore also be present in this study. It is nevertheless important to dare to risk such uncertainties, as the result of the analysis can be fruitful for further research and a better understanding of the field.

2.2.1 Case Study

This study is a comparative-historical case study where within-case studies of three different countries are first conducted separately with the same design, and later compared. Since the within-case studies cover the development in each case over a certain period of time, the research design is historical as well as comparative (Gerring 2007:28-31).

The adequate research design for the case study depends on the formulation of the research questions (George and Bennett 2005:74). The research question in this study requires both within-case analysis and comparative analysis. However, since it is clear already before the study begins that the cases are not independent of each other in the gas sector, the within-case and the comparative analysis will be somewhat overlapping.

When it comes to case selection, the three cases that will be analysed in this study are the countries in the Southern Cone that have major natural gas reserves. As the study is limited to the Southern Cone region and the natural gas sector, it is not relevant to include countries outside the region or countries in the region without major natural gas reserves.

The three countries in this study have interesting similarities in that they are all quite new democracies in the same region. They all had financial problems due to high debts after the democratisation in the 1980s, and have all been through financial structural programs initiated by the IMF. Neoliberal political ideology dominated in all three countries until the last decade, when they all turned somewhat to the left politically, although to a varying degree. The three countries vary in size, economical performance and the importance of natural gas to the national economy. They are nevertheless interdependent, especially in this sector as the case studies will show, and a study of natural gas politics in the Southern Cone leaving out one of these three countries would struggle to complete the picture.

2.2.2 Sources and Data Collection

In order to answer the research question a variety of written sources will be analysed. The political processes studied in this thesis are official and their documentation is therefore publicly available. In addition to the official documents, opinions from key persons, previous research and research institutes' reports on the outcome of the processes will all contribute to complete the data this study is based on.

The main sources are the governments in the three case countries. Relevant information from the governments is found in strategy documents and policy plans on natural gas, hydrocarbons, energy, natural resources and other related subjects. Also press releases, speeches and interviews related to hydrocarbons contribute with information to complete the empirical data. Legal documents such as laws, decrees and resolutions are also available in all the three cases.

Articles from scientific and issue specific journals, from the media in the three countries and from energy experts are important sources of data on the development of the natural gas sector. Also interviews with key actors published in newspapers, reports and journals

are important supplements. However, as media in the region can be politically biased, articles from the media are treated with particular caution in the data collection. Regional and national centres and institutes for research and documentation are providers of necessary statistics, evaluations, results and facts. These centres and institutes are often regarded as objective, but it is important to bear in mind that the researchers here may also have an agenda or a bias when they present their findings (George and Bennett 2005:90).

Facts and information will come from different sources and evaluating the credibility of each source is necessary before including the information in the study. By using various sources and triangulating official documents, research reports and statements and evaluations in the media, it is possible to obtain information on the same issue from different angles and get a more holistic view of the process (Gerring 2007:17-18).

With more time and resources a fieldwork in the three countries to gather information and interview key actors for this study would have been possible. The most important information is however already available, and the informants relevant to interview are officials and politicians in high positions whose opinions are frequently expressed in the press and official statements. It is possible that information from own interviews could have contributed with alternative explanations to the outcomes of the political processes studied here, but the way the thesis is structured it is possible to obtain relevant and sufficient data through secondary sources in order to answer the research question properly. I have also had some contact by e-mail and in person with Latin American social science researchers and government officials in order to clarify some aspects and get access to relevant information. This correspondence has been very useful as it has given me more confidence in that the sources I use are reliable and used by other researches in the field.

2.2.3 Validity and Reliability

Validity has to do with the ability of the data and the analysis to answer the research question, and the ability of the case study to generalise about a broader universe of cases. Reliability has to do with the accuracy and replicability of the study, it is important that the same study can be conducted by another researcher and that he or she would reach

approximately the same conclusion (Gerring 2007:217, Hellevik 2002:471-473). As mentioned above, the possibility of errors is always present in studies like this. First of all the dependency on second hand and sometimes third hand information makes it hard to guarantee that the information is trustable and accurate. All the data in the study will be interpreted by me as the researcher, and this interpretation will have some element of subjectivity. A triangulation of different sources will however diminish the risk of using inaccurate information and misunderstanding the relevance of the sources for the analysis. All the sources used in the study will be referred to and a list of references will be included, this makes it possible for other researchers to repeat the study with the same data and to know where the data is acquired from.

Language is a potential threat to reliability in this study. Neither English nor Spanish are my native language, but I consider my command of these languages good enough to avoid misunderstandings and errors that threaten reliability. My command of Portuguese is however not fluent, so in the case study of Brazil I will need to consult native speakers and dictionaries. In contrast to the cases of Argentina and Bolivia however, much of the Brazilian data is also available in English (or Spanish), so I consider the necessity of a good command of Portuguese to be less than the need for Spanish. It can nevertheless not be guaranteed that this study does not suffer from the fact that the data collected will be in three different languages with the possibility of misunderstandings that implies.

Considering validity, it is important that the data I collect are able to answer the research question in a satisfactory way. The risk in social sciences is always that the relations between variables that one seems to have revealed may be spurious (Hellevik 2002:60, 73-75). On such a complex issue as natural gas politics, it is difficult to include all relevant variables in a model that at the same time serves as a framework for comparative analysis. The combination of implementation theory and governance model theory in the theoretical framework makes it possible to include both issue-specific variables and general public policy variables in the analytical model, thus increasing the chance of including the most important aspects in the analysis.

As a comparative case study, the analysis should be able to say something about a bigger universe of cases (Gerring 2007:20). In the framework outlined by David Levi-Faur

(2006) for studying comparative cases in regulatory capitalism, he emphasises that cases may vary both on the national level and on the sector specific level (Levi-Faur 2006:368). Since this thesis will analyse the same sector in different countries, the study can only generalise within the same sector across countries, and not to different sectors, even within the same countries (Levi-Faur 2006:372-373). Since the natural gas sector has several features distinguishing it from other sectors, I will argue that this kind of study will be fruitful, as the general theories on public policy might have to be modified when it comes to a sector where natural monopoly is relevant both upstream and downstream, and where investments depend on long-term contracts and stable governance.

In all process analysis, time is an important aspect. Sabatier (1986:28) emphasises that the traditional implementation research's negative findings could often be due to a too short time frame. It is possible that the failure to attain their goals by some of the governments in my case studies can be explained by the fact that the studied period has been too short, and that one should, as Sabatier (*ibid.*) suggests, study the results after ten years in order to get the right picture. In the political reality of Latin America however, ten years is quite a lot of time, especially considering that many countries have laws against re-election, and one administration can thus only hold the power for maximum four or five years. I therefore find it relevant to use implementation theory as my main theoretical approach, nevertheless bearing in mind that the situation and results may change when and if governments have had more time to segment their decisions and goals. The problem of the time factor would occur in any study of contemporary processes, and it needs to be accounted for in the presentation of the results. The value of studying contemporary processes, and not only processes that have been concluded, is however great if the studies can be a resource for contemporary policy formulation and an assistance in identifying problematic areas that can thus be dealt with before it is too late. I therefore find that my study of contemporary implementation processes is justified by the possibility such studies have to identify relations as they are still relevant, instead of just revealing problems that could have been solved in the past.

3 Case Studies

This chapter will systematically present the three case studies that will be analysed in order to answer the research question. The empirical information on each case is extensive, but also necessary in order to get a clear picture of the natural gas sector and its development. Each case will have a short historical introduction before the goals and the dependent variable, *goal attainment* are presented. Thereafter the scores on the independent variables will be outlined, with emphasis on obtaining comparable information from the three cases. The conclusion in the end of each a case will complete the empirical information and point forward to the analysis in chapter four.

3.1 Argentina

Argentina is one of the richest countries in South America measured in GDP per capita. However, this has not prevented the country from experiencing economic crisis and instability the last decades (Honoré 2004:2). A short outline of Argentina's recent political history is necessary to understand the crisis that occurred in 2001 and its impact on the natural gas sector.

In 1983 Argentina held democratic elections after years of brutal dictatorships. The main task of the first democratic government led by President Raúl Alfonsín (1983-1989), was to bring the country back to normality and justice by reinstating civilian control over institutions and investigating the responsables for the crimes committed by the military juntas. Economically, the 1980's in Argentina fit well with the characteristics of "the lost decade", a description normally used when analysing the low economical performance of the Latin American countries in the 1980's⁸. In 1989, Carlos Saúl Menem started his presidential decade with the huge task of bringing the country out of the financial crisis and hyperinflation the Alfonsín government left behind (MacLachlan 2006:154-162).

⁸ Many of the Latin American countries had economical upturns under the totalitarian military regimes in the 1970's, but heavy borrowing and involvement in illegal trade of for instance drugs and weapons led to economic chaos after transition to democracy in the 1980's. The countries were not able to perform economically, high inflation and debts flourished and the decade is therefore characterised as "lost" in terms of development.

In cooperation with the International Monetary Fund (IMF), President Menem (1989-1999) implemented a number of structural reforms and austerity measures. Almost everything the state owned was privatised, including the energy and hydrocarbon sectors. The Menem government also introduced the “convertibility law”, pegging the Argentine peso to the US dollar. These policies created economic growth, brought inflation considerably down and were successful in drawing foreign investment to the country (Honoré 2004:11-12). In 1998 however, at the end of President Menem’s second term, the problems started piling up for Argentina. The convertibility law kept the Argentine peso artificially strong, leading to a trade deficit, high unemployment and high fiscal debt. After rumours of devaluation people started withdrawing their money from the banks and transferring dollars out of Argentina, and financial breakdown was inevitable. In 2001 the Argentine peso was devaluated to almost one forth of its former value compared to US dollars, and utility prices were frozen in pesos. These crisis measures affected the natural gas sector severely (Honoré 2004:2-3).

Almost 50% of the energy consumed in Argentina in 2002 was derived from natural gas, and as a net exporter the country could keep a low domestic fixed price on gas. The price in pesos was kept the same as before devaluation, meaning that the gas companies lost much of their income. As the import prices for new equipment was still in dollars, the investment costs became much higher compared to the income. The fixed gas price was also much lower than the price for other fuels and the demand increased accordingly. The investment in exploration of new gas fields was very low due to the low prices, and together with the increase in demand, this created an energy crisis that peaked in 2004 (Honoré 2004).

Just ahead of the energy crisis, the Argentineans elected a new government; the former Juventud Peronista⁹ activist Néstor Kirchner became president in 2003. Within the government, the entity responsible for the natural gas sector is the Energy Secretariat (Secretaría de Energía) controlled by the Ministry of Federal Planning, Public Investment and Services (Ministerio de Planificación Federal, Inversión Pública y Servicios). Following the energy crisis, the government had to concentrate its natural gas politics on

⁹ The Juventud Peronista was a radical youth movement working against the brutal dictatorships during the 1970’s and 1980’s.

avoiding a prolonged energy crisis and preventing energy shortages during the winter months when the demand usually increases.



Figure 3.1. Map of Argentina with major cities¹⁰

¹⁰ Map from 100 destinos. Available through URL: http://www.100destinos.com/argentina_esqui2.htm

Following 2004, it was soon clear that Argentina had gone from being a net exporter of natural gas, to a country that depended on gas imports from its neighbours to cover the energy needs of its population. This had happened in spite of still abundant natural gas reserves in the country (Honoré 2004:8).

3.1.1 Argentina's Goals in the Natural Gas Sector

The energy crisis forced the government to act, and in 2004 the Kirchner government launched a national energy plan for 2004-2008 (Plan energético nacional 2004-2008, PEN). This plan is not only concentrated on natural gas, nonetheless it states goals for four of the categories outlined in the second chapter. The goals are also specified in other documents published by the Secretaría de Energía and its current leader Daniel Cameron.

Energy goal. The first goal is energy security for all of Argentina, including the growing industrial demand (Cameron 2004:6, 8-9, 13). To attain this goal there has to be secure supply of energy even if domestic demand increases. When supply is short, the energy intensive industry has the lowest priority. The subsequent cuts in gas supply to the industry cause production loss, and to attain the energy goal such cuts should not occur.

Economical goal. The second goal is increased production and income from gas in Argentina (Cameron 2004:12). To attain this goal the investment, exploration and exploitation of natural gas in Argentina have to increase.

Strategic goal. The third goal is regional energy integration in the Southern Cone (Cameron 2005, Cameron 2004:15). The Argentine government see energy integration in the region as beneficial for themselves and also for their neighbours. To attain this goal the contracts of energy cooperation between Argentina and other countries in the region would have to be implemented. On a multilateral level, the countries in the region should include energy on the agenda of the regional cooperation organisations such as MERCOSUR and UNASUR, and pipeline and transportation systems have to be constructed for the transportation of energy between countries.

Social political goal. The fourth goal is to supply the poor provinces in north-eastern Argentina with gas (Secretaría de Energía 2005). This includes the provinces of Salta,

Formosa, Chaco, Misiones, Corrientes, Entre Ríos and Santa Fé, all among the provinces in Argentina with the least percentage of households connected to electricity and/or gas systems. In order to attain this goal the planned construction of the north-eastern gas pipeline Gasoducto del Noreste Argentino (GNEA) must be completed.

Environmental goals connected to natural gas cannot be found in the abovementioned documents published by the Secretaría de Energía.

3.1.2 Goal Attainment

1. Energy goal. Of the gas supply in Argentina in 2008, 92% came from own production, 4% was imported from Bolivia and 4% was imported LNG. The gas demand peaks in the winter months (May to September), and it was in this period the LNG was imported to increase the supply. Nevertheless, so-called grand users of gas (energy intensive industry etc.) experienced gas cuts during this period. Grand users with “interruptible” contracts experienced 24 days with gas cuts, and grand users with “fixed” contracts experienced 15 days with gas cuts (Lovecchio 2009:39-41). The gas demand in Argentina was almost the same in 2008 as it was in 2007, with a slight decrease due to a warmer winter in 2008 (Lovecchio 2009:6). Still, the amount of gas injected to the Argentine gas transportation system in 2008 was lower than in 2007, a decrease from 118,744 million m³/day on average in 2007 to 115,082 million m³/day on average in 2008. The amount of gas injected in 2008 was still higher than the equivalent for 2004, which can be explained by an increase in transportation capacity from a maximum of 123,82 million m³/day in 2004 to maximum 138,60 million m³/day in 2008 (Enargas 2008:144-146). The decrease in transported gas from 2007 to 2008 can be explained by the almost 50% drop in both exports and imports of gas, the exports went down from 3031,2 million m³ in 2007 to 1552 million m³ in 2008, and imports dropped from 1756,9 million m³ in 2007 to 927 million m³ in 2008 (Lovecchio 2009:48-49).

These results show that the energy goal of the Argentine government has not been attained. Even if many of the indicators have improved from 2004 to 2008, the comparison between 2007 and 2008 shows that this improvement is not steady. Users are still experiencing gas cuts and neither production nor imports have increased sufficiently

to secure the Argentine gas supply. Increased demand is increasingly dependent on other and more expensive energy sources.

2. Economical goal. According to the U.S. Energy Information Administration¹¹ the production of natural gas in Argentina has fallen from 1846 billion cubic feet in 2004 to 1783 billion cubic feet in 2008. According to a report published by the research institute Montamat & Associates and edited by Yanella Lovecchio (2009:23), the production of natural gas fell with 1% from 2007 to 2008, the main production decline being in the largest gas-producing province, Neuquén. The report says some of the decline is due to the lower than expected production in the offshore fields in southern Argentina.

It has been difficult for Argentina to attract new investments in exploration. From 2007 to 2008 the number of perforations for gas wells went down from 127 to 98 (Lovecchio 2009:16, 28-29). Even if the gas producers were able to re-negotiate the gas prices for Argentine households with the government, the increase in prices has not been enough for investors (Lovecchio 2009:43-45). The fall in the oil prices between 2008 and 2009 has also influenced the willingness to invest, as new natural gas fields in Argentina are often associated. Enarsa has launched new concession rounds and is optimistic about attracting investment to the offshore fields in 2010, but so far the economical goal cannot be considered attained¹².

3. Strategic goal. According to reports from the Economic Commission for Latin America and the Caribbean (ECLAC), energy integration in South America is difficult due to different needs and views between the countries. Many bilateral agreements have been signed and the energy integration topic is frequently discussed in regional summits and meetings in organisations such as MERCOSUR, UNASUR and ALBA, but few actual results have materialised from this. It is evident that many countries, both net exporters and net importers of energy, are interested in energy integration, but so far not much has been done (Vaillant 2007).

¹¹ Data available through the EIA homepage. URL: <http://tonto.eia.doe.gov/cfapps/ipdbproject/iedindex3.cfm?tid=3&pid=3&aid=1&cid=&syid=2004&eyid=2008&unit=BCF>

¹² See press release by Enarsa from 10 February 2010. URL: <http://www.enarsa.com.ar/nota18.htm>

Argentina has signed a bilateral agreement with Bolivia for import of natural gas. This agreement included the construction of the major pipeline Gasoducto del Noreste Argentino (GNEA) from Bolivia through the north-eastern Argentina, due to be finished in 2006. Bolivia has however not been able to supply the agreed amount of gas, and the GNEA has still not been constructed, even if the governments of the two countries are both determined to keep the agreement and the cooperation (De Dicco 2008:10-11).

There is an agreement between Argentina and Brazil about interconnection in hydroelectric, nuclear and gas-derived electricity, due to be finished in 2016. The result of this agreement is not yet clear. Argentina also has agreements with both Ecuador and Paraguay where Argentina is to invest in petroleum and hydroelectric projects in those countries. The deadlines for these projects are further ahead. In addition, Argentina has an agreement with Venezuela on the production of hydrocarbons in the Venezuelan Orinoco region, which has not yet materialised (De Dicco 2008: 11-12). Lastly, an agreement with Uruguay for building a LNG re-gasification plant to serve both countries has also been signed, and is planned to start production in 2015. The current import of LNG to Argentina comes from the port in Bahia Blanca, operated by YPF (De Dicco 2008:12, Olsen 2009:12).

Concluding from this, the Argentine effort and initiative for regional energy integration needs yet to yield more concrete results before the strategic goal can be characterised as fully attained.

4. Social political goal. As mentioned above the GNEA pipeline has not yet been constructed, the north-eastern provinces are therefore not connected to the gas transportation system. Analysts usually blame the instability in the Bolivian gas production and export for the stagnation of the pipeline construction, and much hope is now connected to a new agreement signed in March 2010 by presidents Kirchner and Morales specifying the construction of the GNEA pipeline. Even if concession rounds for the pipeline have started, it will take years before the pipeline can supply gas to the

region. People in the north-eastern provinces will therefore still rely on more expensive energy to cover their daily needs (Olsen 2009:12)¹³.

3.1.3 Political Ideology

Even though the Argentine law allows for re-election of presidents after one term, Néstor Kirchner was replaced by his wife as presidential candidate for the *Frente para la Victoria* party in the 2007 elections. Cristina Fernández de Kirchner won the election with 44% of the votes in the first round and took over the presidency after her husband. Politically the Kirchners are leftist Peronists, but, in good Argentine tradition, their ideology has been renamed Kirchnerism and resembles a centre-left ideology. Kirchnerism is characterised as diverse and open to different views and traditions within the Peronist left. For the purpose of this study it is important to note that the Kirchners are anti-neoliberal, emphasise regional cooperation and integration in the Southern Cone and favour greater state intervention in the country's economy (Honoré 2004:21, Pagina12 2006, Voltairenet 2005). For instance in Néstor Kirchner's speech to the IV Summit of American countries in Mar de Plata in Argentina in 2005, he said that his country was one of the victims of the Washington consensus, a theory that has failed completely, and that his government would take responsibility for amending the damage done to the country by the politics derived from this theory¹⁴.

In the natural gas sector, the Kirchners' politics have been marked by scepticism towards letting the market sort out the problems related to the energy crisis by itself, and the view that the coverage of basic energy needs of the population is the responsibility of the state and a human right for the individual (La Nación 2010).

¹³ See also information from the newssite HidrocarburosBolivia from 27 March 2010. URL: <http://www.hidrocarburosbolivia.com/bolivia-mainmenu-117/gobierno-relacionamiento-mainmenu-121/29124-gas-bolivia-y-argentina-reavivan-viejo-acuerdo.html>

¹⁴ Kirchner's speech is available through the homepage of the IV Summit of American countries. URL: <http://www.summit-americas.org/NextSummit-esp.htm>

3.1.4 Legislation

Argentina's hydrocarbon law (law 17.319)¹⁵ is from 1967, but has been amended several times. The country also has a natural gas law (law 24.076)¹⁶ from 1992 with more than four hundred completing and modifying legal documents, mainly resolutions and decrees.

The energy goal of the Argentine government is incorporated in resolution 265/2004¹⁷ and resolution 659/2004¹⁸, emphasising that Argentine natural gas cannot be exported if the export endangers the full supply of gas to the internal market. The mentioned resolutions also outline measures to be taken in order to prevent natural gas shortages, such as incentivising energy saving and improving the capacity of transportation and distribution.

The economical goal is incorporated in law in the following manner: Law 25.943¹⁹ from October 2004 creates the national oil and gas company Enarsa and states that through this company the exploration and exploitation of Argentine hydrocarbons will increase. Decree 181/2004 and resolution 208/2004 incorporates the normalisation of the natural gas prices in the legal system (Guichón 2004:3). The normalisation of gas prices means increasing the prices of natural gas at the level of injection to the transportation system to a sustainable level. Higher prices should provide incentives for the companies to explore and exploit new areas and it should also increase the income of the state as the overall gas volume increases (ibid.).

The strategic goal of regional energy integration is included in the cooperation between the South American countries in the South American Union of Nations (Unión de Naciones Suramericanas, UNASUR), and Argentina has energy cooperation agreements with Bolivia, Brazil, Ecuador, Paraguay, Uruguay and Venezuela (De Dicco 2008:11-12).

¹⁵ Law 17.319 of 23 June 1967, *Hidrocarburos*, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/verNorma.do?id=16078>

¹⁶ Law 24.076 of 20 May 1992, *Gas Natural*, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/verNorma.do?id=475>

¹⁷ Resolution 265/2004 of 24 March 2004, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/anexos/90000-94999/93783/norma.htm>

¹⁸ Resolution 659/2004 of 17 June 2004, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/anexos/95000-99999/95858/norma.htm>

¹⁹ Law 25.943 of 20 October 2004, *Energía Argentina Sociedad Anónima*, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/anexos/100000-104999/100591/norma.htm>

In the agreements with Bolivia and Venezuela, Enarsa is in charge of the cooperation with the corresponding NOC's, YPFB and PDVSA (ibid.).

The social political goal is partly incorporated in law through resolution 710/2004²⁰, where the agreement to export gas from Bolivia to Argentina is outlined. The construction of the GNEA pipeline is however not especially mentioned in legal documents.

According to the law of Enarsa, law 25.943, the national oil and gas company is responsible for all exploration and production activities, all transport and distribution and the overall energy security of Argentina. The implementation of the energy, social political and economical goals is thus the responsibility of Enarsa.

3.1.5 Skills and Commitment of Implementing Officials and Agencies

The Argentine hydrocarbon sector was privatised in 1992 when the shares in the state-owned oil and gas company Yacimientos Petrolíferos Fiscales (YPF) were sold (IEA 2003:98, De Dicco et al 2008:9). In 1999 the Spanish company Repsol bought most of the shares and gained control of 97% of YPF. After the energy crisis in 2004, the government created a new state-owned oil and gas company, Energías Argentinas SA (Enarsa). According to law 25.943, the federal government owns 53% of Enarsa's shares, 12% is owned by the provincial governments and the remaining 35% are traded freely in the market, these 35% of the shares do not have voting rights.

Enarsa is responsible for the development of all new oil and gas fields in Argentina. The company is also responsible for import of natural gas in order to meet the internal demand, construction of pipelines for natural gas transportation and the installation of re-gasification plants for LNG (De Dicco et al 2008:9). However, Enarsa is a young and small company with few employees and little experience (Cauclanis 2007a:32). The management system of hydrocarbons in Argentina also allows the provincial governments in hydrocarbon-rich provinces to sign extraction contracts with foreign investors. This makes it harder for Enarsa to gain control of the sector, as the company is not always an integrated part of negotiations (De Dicco 2008:4-5).

²⁰ Resolution 710/2004 of 8 July 2004, available through InfoLEG. URL: <http://www.infoleg.gov.ar/infolegInternet/anexos/95000-99999/96432/norma.htm>

Enarsa has signed contracts with several international companies for exploration of hydrocarbons in Argentina, and contracts with the Bolivian and Venezuelan national oil and gas companies YPF and PDVSA for the import of, respectively, gas and oil to Argentina. Nevertheless, Enarsa is not a great economic agent in the Argentine hydrocarbon sector; the company is for the most part preoccupied with import of hydrocarbons in order to meet domestic demand. The construction of the GNEA and the building of refineries for Venezuelan oil in Argentina have both suffered from lack of finances and it is still uncertain whether these projects will be realised (De Dicco et al 2008:9-10).

In a report by the Argentine energy research centre Centro Latinoamericano de Investigaciones Científicas y Técnicas (CLICeT), Enarsa is seen as too weak as long as the private international oil and gas companies are still allowed to export oil and gas from Argentina. The authors of the report find that the private companies are still in control of the parts of the sector that generate revenues, and Enarsa has so far had too little capital to change this development (De Dicco et al 2008).

3.1.6 Political Support

Former President Néstor Kirchner was popular among Argentines throughout his presidential period from 2003 to 2007. The politics of the first Kirchner government was also popular among Argentines, especially the re-entry of the state in the energy sector. In an opinion poll from 2006, 74% of Argentines say they would support a nationalisation of the energy sector²¹. Also President Cristina Kirchner received support in the beginning of her term, but many Argentinean voters expressed that they voted for her to keep continuity in the government, not because she was the best candidate²². Following the financial crisis in 2008, Cristina Kirchner's government lost much of its support and Argentines do not think the president is leading the country the right way²³. This

²¹ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/argentina_ponders_energy_nationalization/

²² See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/28877/argentineans_picked_kirchner_for_continuity

²³ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/kirchner_on_wrong_track_say_argentines/

demonstrates mistrust in the government and its policies. Much of the popular support gained by the first Kirchner government has been lost.

The Argentine Institute of Petroleum and Gas (Instituto Argentino de Petróleo y del Gas, IAPG) is a large business association for oil and gas related industry in Argentina. IAPG was active in the debate on what needed to be done in the Argentine hydrocarbon sector after the energy crisis. The association is in line with the government in emphasising that the natural gas sector needs to be sustainable, more investment and exploration is necessary and the regional energy integration should be further developed. IAPG does not comment directly on the government's policies, but urges for investor-friendly policies, also emphasising that the consumers have to pay higher prices for natural gas, as the new high-risk extraction, imported Bolivian gas and LNG are more expensive than the Argentine gas extracted from the old reserves (López Anadón 2007)²⁴.

The industry is interested in higher domestic gas prices to incentivise investment. However, high prices to all consumers would most likely cause public protests. Prices on gas from the new offshore fields have been liberalised by the Cristina Kirchner government, but small consumers are still protected by a differentiated gas consumer system that divides all consumers in price categories based on how much gas they use (Olson 2009:16).

3.1.7 Stability

From 1956, the Argentine government promoted the substitution of other fuels with natural gas. The national oil and gas company Yacimientos Petrolíferos Fiscales (YPF) was responsible for the upstream of natural gas, whereas the state transmission and distribution company Gas del Estado (GdE) was responsible for the downstream. In the 1980's both these companies suffered severely from the poor economical management of Argentina, and very little capital was left in the two companies for new investments (Honoré 2004:3). The Menem government fully privatised the Argentine oil and gas sector in 1992, unbundling and privatising GdE and selling off all YPF shares to the private market. In 1999 the Spanish company Repsol bought YPF, and the company

²⁴ IAGP speeches and documents are available through the homepage. URL: <http://www.iapg.org.ar/institucional/prensa/comunicados.htm>

Repsol YPF is now one of the major actors in the Argentine hydrocarbon sector (Honoré 2004:4-5).

In 2004, after the energy crisis, the Argentine government created Enarsa, wanting to move the control of the energy sector back to state hands. “After a decade of privatisation and liberalisation, we see Argentina going back to state intervention and ownership in the energy sector” (Honoré 2004:22).

Argentina thus moved from a proprietorial to a non-proprietorial governance model in the natural gas sector in 1992, and in 2004 the government started re-regulating towards a more proprietorial model.

3.1.8 Case Conclusion

The Argentine government has not been very successful in attaining its goals in the natural gas sector. From a sector that was fully privatised, the government has tried to take back some of the control without fully nationalising. The instability and uncertainty connected to which governance model is the best for the gas sector in Argentina may explain some of the lack of success.

The CLICeT report “Indicadores Energéticos de Argentina, año 2007” states that the Argentine hydrocarbon sector was destroyed by the neoliberal politics from 1989 to 2002, where the international companies invested in the hydrocarbon reserves with the lowest risk and constructed pipelines for export instead of inland distribution (De Dicco et al 2008). The result of this politics is, according to CLICeT, that the Argentine state is left without the capital from the low risk reserves, without sufficient production of hydrocarbons to supply internal demand and without a proper domestic transportation system. Enarsa has the mandate to amend these problems, but so far the company has not been able to do so (De Dicco et al 2008:8-10). The authors of the CLICeT report see investments in extraction abroad and refinement in Argentina as the best options for creating a strong national oil and gas company that can then start exploration in high-risk Argentine offshore fields (De Dicco et al 2008:82-86).

Other analysts disagree with the conclusions of CLICeT. Former Energy Secretary (1999-2000), Daniel Gustavo Montamat sees increased nationalisation as the wrong solution for Argentina. According to Montamat (2009:13-14), the best solution for Argentina would be to raise domestic gas prices to a free-market level and deregulate the gas sector in order to attract foreign investment. Montamat does not see Enarsa as an important actor in the Argentine gas sector.

Montamat's conclusion is almost the opposite of CLICeT's, and as both have significant roles as opinion formers in the Argentine energy-political landscape, it creates increased uncertainty in the government and Enarsa over which path to follow; towards more national control or towards free market mechanisms.

The political support of the government's politics is also divided. The popular vote wants more nationalisation and is afraid of increased gas prices, whereas the industry wants less regulations and increased prices to attract foreign investment. In 2009 the Cristina Kirchner government was forced to liberalise the prices of gas from new fields in order to attract and keep investment, this was however a reluctant move from the government's side, and investors are still not trusting that the government is committed to liberalising the sector (Olson 2009:19). If the government chooses to not liberalise prices completely in order to keep popular protests down, it is possible that the high-risk fields will stay unexplored since Enarsa does not have the experience or the capital to explore them without foreign investment. In this case it will be only a question of time before the prices will rise anyway, due to the increased need for expensive imports of gas.

The fact that Argentina is no longer a net exporter of gas, means that the production of gas in Argentina has to be financed through the domestic consumption, at least until the production is large enough to start exporting again. Increased production of natural gas in Argentina is thus dependent on increased domestic prices on natural gas, with the risk of political unrest and strong popular protests. Increasing prices would also mean that the poorest segments of the population would have great difficulties with covering their energy needs.

The only other option is that Enarsa attracts rich partners that can wait for their investments to be profitable. As it is evident that the international private oil and gas

companies will not invest in the high-risk projects without increased prices, other NOCs are the most likely cooperation partners. Olson (2009:16) mentions that Indian or Chinese state companies have shown interest in buying Repsol's shares in YPF. And it is worth noticing that in the communiqué released by Enarsa in February 2010²⁵, the countries mentioned as possible investors in the Argentine offshore fields are China, Vietnam, Brazil, Venezuela, Chile and Uruguay, the first four being countries with strong national hydrocarbon companies and the latter two being neighbours in increasing need of energy imports.

The international gas industry sees Argentina as a net importer of natural gas, and is not willing to let the population have the low prices of a net exporter. As Enarsa does not have either skills or capital to significantly increase the production of gas in Argentina, the goals of the state will be difficult to attain. Also the inability of Bolivia to keep the export agreement has affected the Argentine goal attainment. Apart from urging the Bolivian government to speed up its gas production, there is little the Argentine government can do to secure gas supply to its north-eastern regions since the supply here is dependent on imports from Bolivia and the construction of the GNEA pipeline.

Studying the effect of the independent variables in the analytical model it is clear that a political ideology favouring proprietorial governance and a legislation covering the implementation process have not ensured goal attainment in Argentina. It is therefore probable that low political support, lack of skills and commitment among implementing officials and agents and little stability in the governance model have caused the low goal attainment. This will be further analysed in chapter four.

²⁵ See press release by Enarsa from 10 February 2010. URL: <http://www.enarsa.com.ar/nota18.htm>

3.2 Bolivia

Bolivia is one of the poorest countries in the Western Hemisphere, the main income comes from export of raw materials, mainly minerals and agricultural products. The transition to democracy in Bolivia came in October 1982, after many years of military coups and unstable governments. The natural gas resources have been a source of conflict in Bolivian politics for years. That such a small economy is host to the second largest gas reserves in South America has created challenges for both Bolivians and their neighbours.

Bolivia started production of natural gas in the 1960's, and export of gas to Argentina and later Brazil started in the 1970's. However, the income from this export did not contribute much to the country's development, and the 1980's are still considered "a lost decade" for Bolivian politics and economy, much like the situation for the rest of the continent. The 1990's were dominated by neoliberal and structural adjustment politics, most of the Bolivian state-owned companies were privatised and foreign investment was welcomed. These policies did not increase the living standard for most Bolivians, and many civil society groups were discontent (Mares 2006:93). The vast majority of Bolivian poor and working class are of indigenous descent, and indigenous movements, labour unions, miners and farmers started with political protests against the government.

When ex-dictator Hugo Banzer Suárez (1997-2001) was elected president in 1997 and continued the USA friendly, neoliberal economic politics, the social unrest escalated. Especially the privatisation of Bolivian water resources and the planned eradication of the coca leaf met heavy popular resistance. Banzer was succeeded by the short and troublesome presidency of Gonzalo Sanchez de Lozada (2002-2003), who had also been president during the privatisation wave of the 1990's. Sanchez de Lozada was forced to resign due to his natural gas politics in 2003 (Breuer 2008:70). A period of interim presidents followed until the indigenous and labour movement leader Evo Morales Ayma was elected president in December 2005. Morales represents Movement towards Socialism (Movimiento al Socialismo, MAS) and his main political campaign was nationalisation of the hydrocarbon resources (Cauclanis 2006:4).

The natural resources in Bolivia are unevenly divided between the country's nine departments²⁶. Most of the minerals and some of the world's biggest silver mines are located in the highlands. The highlands have been the administrative centre of Bolivia since before colonialism, it is the host for the government seat and the population here is mainly of indigenous descent. The mining industry has however been in decay for decades and most of Bolivia's income comes today from agriculture and the hydrocarbon industry in the eastern lowlands. The lowlands have had population growth and increased income and development since the downturn in the mining industry, and Santa Cruz, the biggest of Bolivia's departments, is more industrialised than the rest of the country. The landlords and business elite in the lowlands are in strong opposition to the current socialist government (Breuer 2008:69-70).



Figure 3.2. Map of Bolivia with department capitals²⁷

²⁶ Bolivia is geographically divided in nine administrative departments, five in the highlands (La Paz, Oruro, Potosí, Chuquisaca and Cochabamba) and four in the lowlands (Santa Cruz, Tarija, Beni and Pando).

²⁷ Map from the World Factbook 2003, available through URL: <http://umsl.edu/services/govdocs/wofact2003/geos/bl.html>

3.2.1 Bolivia's Goals in the Natural Gas Sector

In 2006 the Bolivian government nationalised the hydrocarbon resources. The same year a national development plan (Plan Nacional de Desarrollo 2006-2010, PND) was launched, including an extensive section on the role of the hydrocarbons in the development of the country. In 2008 the Bolivian hydrocarbon strategy (Estrategia Boliviana de Hidrocarburos) was launched, further elaborating the state's goals in the hydrocarbon sector. Goals from all the five categories outlined in chapter two can be found in the PND. In the category of economical goals, there are two goals with high priority and emphasis that are central to the Bolivian natural gas politics. Both will be included in the analysis since leaving one of these economical goals out of the analysis would give an incomplete picture of the state's goals in the sector. This study will therefore analyse the following six goals in the Bolivian natural gas sector:

Energy goal. The first goal is national self-sufficiency of energy (PND 2006:99, 102-103). To attain this goal there has to be a reduction in imports of oil and diesel products, this import should in the long run be unnecessary. The internal supply of energy has to be high enough to cover an increase in domestic demand and the domestic pipeline system should cover all the populated parts of the country.

First economical goal. The second goal is increased generation of surplus to the state from the natural gas sector (PND 2003:19-20, 92, 100). To attain this goal the income of the state in the natural gas sector has to increase.

Second economical goal. The third goal is to develop Bolivia from being primarily a raw material exporter to become an exporter of industrial commodities, by industrializing the natural gas sector and exporting these processed products (PND 2006:3, 19-20, 100-102). In order to attain this goal, factories, plants and refineries for production of natural gas derived products have to be producing and exporting.

Strategic goal. The fourth goal is to consolidate Bolivia as a regional energy centre (PND 2006:92, 99-102). To attain this goal the first requirement is that Bolivia is able to supply the amounts required in the bilateral gas export agreements with Argentina and Brazil. Gas pipelines have to be constructed in order to transport gas efficiently to foreign

markets. Export of gas to other countries in the region that are dependent on energy import, such as Chile and Uruguay, would give Bolivia a central role as energy supplier in the region.

Social political goal. The fifth goal is to use the revenues from the natural gas sector to eradicate poverty in the country (PND 2006:20, 29-30, 92). Complete eradication of poverty in a country where 65,2% of the population lives below the national poverty line is evidently not accomplishable in a few years²⁸ and the government is aware of this in making the plan. However, in order to attain this goal the eradication of poverty should be probable in the future. Goal attainment here would mean a decrease in the number of poor in the country and improved living standards for the poorest segments of the population, leading to a smaller gap between the richest and the poorest. Successful programs for better health care, education and working conditions, leading to higher literacy, lower infant mortality and higher employment in formal working sector would indicate that the development is going in the right direction.

Environmental goal. The sixth goal is to substitute polluting oil with less polluting natural gas in industry, households and vehicles (PND 2006:20, 102-103, 112). In order to attain this goal, natural gas has to replace oil and diesel as fuel in engines, vehicles and electricity production.

3.2.2 Goal Attainment

1. Energy goal. The consumption of natural gas in Bolivia went up from 75 billion cubic feet in 2005 to 85 billion cubic feet in 2008 (EIA 2010). During the same time span the consumption of petroleum went up from 50,8 thousand barrels per day (t b/d) to 62 t b/d, and the production of petroleum went down from 62,7 t b/d to 51,4 t b/d, meaning that the import of petroleum must have increased to cover the consumption. This also means that the increased consumption of gas has not substituted the oil consumption. The Bolivian production of natural gas is still much higher than the domestic consumption, so an increased domestic demand can easily be covered by domestic production. However, the gas production has only increased from 519 billion cubic feet in 2005 to 548 billion cubic

²⁸ See UNDP data on Bolivia. URL:
http://hdrstats.undp.org/en/countries/data_sheets/cty_ds_BOL.html

feet in 2008, hence increased domestic demand would mean less gas available for exports (EIA 2010). Bolivia is thus self-sufficient in natural gas, but has not been able to become less dependent on imported oil products. A pipeline that was planned to transport gas from the lowlands to the highlands in order to replace the use of oil in these areas has not been built (El Nacional 2010). The fact that gas, gas derivatives and petroleum products are cheaper in Bolivia than in the neighbouring countries, makes smuggling of hydrocarbon products to especially Chile and Peru an attractive business. Self-sufficiency of these energy sources in Bolivia therefore also includes the supply to these illegal markets across the border as long as the border control is not able to prevent the smuggling (Cambio 2010c). The energy goal cannot be considered attained as Bolivia still depends on energy imports in order to cover domestic use.

2. First economical goal. The state's income from the natural gas sector has increased due to higher taxes and royalties from the production of gas. However, the price on gas is connected to the world market price on oil and this price went down from 2008 to 2009, so the state's income in 2009 was lower than the previous year. The fall in income was further worsened by a fall in demand for Bolivian gas in Argentina and Brazil. This goal has thus been partly attained due to the higher royalties, but the country has to increase the export of gas in order to keep the income high in periods of low prices (Cambio 2010a).

3. Second economical goal. A report by the Bolivian research institute Centro de Estudios para el Desarrollo Laboral y Agrario (CEDLA) says nothing has changed within the field of industrialisation since the nationalisation in 2006. The industry has new owners, but keeps up the same practise. The industrialisation has been postponed several times and YPFB has not completed with the work they should have done according to the PND (Crespo and Guachalla 2009:1-3). Between 2006 and 2008 13 projects were planned by the industrialisation department of YPFB, but none of these projects have been implemented. The current president of YPFB, Carlos Villegas says the first production plant will start up the earliest in 2011, more than five years after the nationalisation of the gas resources. The planned gas pipeline from the Tarija department to the departments in the highlands meant to supply gas separation plants and other industrialisation projects, has not been constructed. The gas exported to Brazil and Argentina is not processed in Bolivia before export, something that could have given Bolivia increased income as the

processed products yield higher prices (El Nacional 2009). The second economical goal has thus not been attained and this also inflicts on the income of the country from the natural gas sector.

4. Strategic goal. Bolivia has not been able to supply the agreed amount of gas to Argentina. Analysts have commented that it is due to the incapacity in Bolivian supply that both Argentina and Brazil have constructed re-gasification plants and depend on LNG imports from overseas exporters (Cauclanis 2007b:12-13, Cauclanis 2008:18-19).

In 2009 and 2010 Bolivia has re-signed agreements with both Brazil and Argentina and the government has also started negotiations with Uruguay, Paraguay and Chile for export of Bolivian gas to these countries. At this point it is too early to say whether these agreements will be implemented, experts say YPFB will have to increase the production of gas in Bolivia with 50% if the country shall be able to keep its agreements with Brazil and Argentina and the increasing domestic demand. As the increase in production so far has not been anywhere near this, it is not likely that Bolivia will be able to export to new markets very soon unless investments, exploration and exploitation are immediately intensified (García 2010:10). Bolivia is thus trying to place itself as a regional energy centre, but so far words and promises have not been followed up in practice.

5. Social political goal. The government has initiated two social programs financed by the direct hydrocarbon tax (IDH). One is a program aimed at keeping children in school by giving the families a small economic contribution for each child that has completed a full school year in public school. The program is called *Bono Juancito Pinto* and was given to 1,8 million children from first to eight grade in Bolivian public schools in 2008. The other program is called *Renta Dignidad* and is an upgrade of the public pension system. Public pensions are paid to all Bolivians above the age of 60. The new system has increased the pension for the ones that have no other income or pension and the payments are made once every month instead of once each year and assure all senior citizens a minimum income each month²⁹.

²⁹ See the homepage of YPFB for information about the social programs. URL: <http://www.ypfb.gov.bo/>

According to official statistics³⁰ the poverty in Bolivia has decreased some from 2000 to 2007, and the Gini coefficient of inequality went down from 0,626 in 2000 to 0,563 in 2007. Since there are no statistics for the years after 2007 it is difficult to say whether the politics of Evo Morales' government or the programs sponsored by the natural gas income have had an impact on the overall living standard in Bolivia. The programs initiated for children and elderly are not enough to eradicate poverty, but they are important as a start of the re-distribution of the income. The social political goal of eradicating poverty is not expected to be attained in the near future, but small steps towards the attainment have been implemented.

6. Environmental goal. As pointed out above, the process to substitute oil-based fuels with gas-based fuels has been slow, because the pipeline planned to supply the highlands with gas has not yet been constructed. The state program to convert gasoline driven car engines to gas engines will start in April 2010 with the first aim of converting 3000 public transport vehicles (Cambio 2010b). Service stations to supply these cars with gas are also being constructed around the country. But the development is slow and the environmental goal cannot be characterised as attained yet.

3.2.3 Political Ideology

The Bolivian government elected in 2005, led by President Evo Morales, was in clear opposition to the former neoliberal economical management of the country. In his inauguration speech in January 2006³¹, Morales' anti-neoliberalism was expressed several times. Among other things he said that "the neoliberal model does not work in Bolivia"³² (Morales 2006a, own translation). He kept this rhetoric also in international forums, for instance in his greeting to the United Nations in New York in September 2006, where he said that the neoliberal privatisation of natural resources was a violation of human rights (Morales 2006b). In one of his last international speeches, addressing the International Climate Summit in Copenhagen in December 2009, Morales stated that capitalism is the culture of death, while socialism is the culture of life (Morales 2009). The government's

³⁰ Data from INE, the Bolivian central bureau of statistics. URL: <http://www.ine.gov.bo/>

³¹ All speeches of Evo Morales are available through the homepage of the Presidential Ministry. URL: <http://www.presidencia.gob.bo/discursos.php>

³² Spanish original: *En Bolivia el modelo neoliberal no va.*

political ideology has thus not changed after the 2009 re-election and is clearly anti-neoliberal.

Internationally the Morales government is in strong opposition to the US American hegemony in the Americas. The government has sought advice from countries such as Venezuela and Norway in the management of the natural gas resources, and is a strong supporter of an integrated Latin America without US American influence³³.

3.2.4 Legislation

The ownership in the hydrocarbon sector was regulated by the Bolivian constitution of 1967 stating in article 139, that the hydrocarbon resources are state property no matter in what condition or where they are found. Further, that the exploration, exploitation, commercialisation and transport of hydrocarbons correspond to the state, and no concession or contract can change the ownership of the hydrocarbons (CPE 1967).

Following the structural economical programs initiated in cooperation with IMF and the World Bank in the 1980's, the new hydrocarbon law approved in 1996, law 1689³⁴, stated that the subsoil resources were to remain state property, but the right to the hydrocarbons from the wellhead on was privatized.

After a referendum on hydrocarbon politics in 2004, President Carlos Mesa was in charge of a new hydrocarbon law in 2004-2005. The proposed law of Mesa's government included a tax increase from 18 to 50%, and the re-activation of the state company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB). In the end however, Mesa did not want to ratify the new law, and popular protests forced him to resign. The law was thereafter ratified under the new interim president as hydrocarbon law 3058³⁵. Law 3058 abolished law 1689.

³³ See information from The Norwegian Agency for Development Cooperation (Norad). URL: <http://www.norad.no/en/Thematic+areas/Energy/Oil+for+Development/Where+we+are/Bolivia+and+YPFB>. URL: http://www.ypfb.gov.bo/internacional_bolivia-y-venezuela-impulsan-industrializacion-del-gas_132.html

³⁴ Law 1689 of 30 April 1996, *Ley de hidrocarburos*, available through the Bolivian congress. URL: <http://www.congreso.gov.bo/leyes/1689.htm>

³⁵ Law 3058 of 17 May 2005, *Ley the Hidrocarburos*, available through the Vice Ministry's law collection. URL:

Based on the will of the people expressed in the referendum, the 1967 constitution and law 3058, the parts of the hydrocarbon sector that had been privatised in law 1689, were re-nationalised by President Morales in supreme decree 28.701³⁶ on 1 May 2006.

The energy goal is incorporated in law 3058 in article 9 and also in law 3740³⁷ that came in 2007, emphasising that the state is responsible for permanent and non-interrupted energy supply for all sectors of society, industry and transportation.

The first economical goal of increased revenues for the state is incorporated in law 3058 in article 8 where 50% of all income from the hydrocarbon sector is given to the state. According to decree 28.701 this amount increases to 82% when the production of natural gas in the reservoir is proven to be above 100 million cubic feet per day.

The second economical goal, developing the country from being a raw material exporter to an industrialised country is incorporated in law 3058 in article 7, article 9 and article 13, emphasising the industrialisation of the natural gas sector, and the export of processed products from Bolivia.

The strategic goal of consolidating the country as a regional energy centre is also incorporated in law 3058, in article 4. The same law also states that this regional role will give Bolivia the possibility to negotiate with Chile for access to the Pacific Ocean.

The social political goal of eradicating poverty is incorporated in law 3058 in article 6, article 7 and article 9, where it is stated that income from the hydrocarbon sector is destined to development projects that will increase equality and opportunities for all Bolivians, emphasising the marginalised indigenous population.

The environmental goal is not specifically mentioned in Bolivia's hydrocarbon law.

http://www.vicepresidencia.gob.bo/Inicio/tabid/36/ctl/wsquerbusqueda/mid/435/Default.aspx?id_base=2&id_busca=3058

³⁶ Supreme decree 28.701 of 1 May 2006, available through IADE. URL:

<http://www.iade.org.ar/modules/noticias/article.php?storyid=111>

³⁷ Law 3740 of 31 August 2007, *Ley de desarrollo sostenible del sector de hidrocarburos*, available through the Vice Ministry's law collection. URL:

http://www.vicepresidencia.gob.bo/Inicio/tabid/36/ctl/wsquerbusqueda/mid/435/Default.aspx?id_base=2&id_busca=3740

Law 3058 states in article 5 that “[t]he state will, through Yacimientos Petrolíferos Fiscales Bolivianos (YPFB), exert its rightful ownership of the totality of the hydrocarbons”³⁸ (own translation). Article 11 in Law 3058 further states that YPFB is responsible for executing the national hydrocarbon policies. Legally, YPFB thus has the main responsibility for attaining the state’s goals in the Bolivian natural gas sector.

Bolivia adopted a new constitution in 2009. Articles 359-368 regulate the hydrocarbon sector. The new constitution incorporates law 3058, law 3740 and decree 28.701 (New CPE 2009).

3.2.5 Skills and Commitment of Implementing Officials and Agencies

The Ministry of Hydrocarbons and Energy (Ministerio de Hidrocarburos y Energía, MHE) is the government entity responsible for the hydrocarbon sector in Bolivia. The management of the hydrocarbon resources, including the negotiation of contracts with partner investors, is delegated to the national oil and gas company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB). As YPFB is also responsible for collecting the direct tax from the hydrocarbons (Impuesto directo de los hidrocarburos, IDH) and distributing this tax to development programs, the nine departments and the state, the company is responsible for implementing most of the goals of the Bolivian state in the natural gas sector.

YPFB was first created as a national oil and gas company in 1936 when the Bolivian hydrocarbon resources were first nationalised. In the 1950’s the sector was opened to foreign investors, but then a new nationalisation came in 1969. Under the first term of President Sanchez de Lozada, YPFB was privatised and divided in several different companies in 1996. With the 2006 nationalisation, the companies were again united under the common direction of YPFB and a government friendly leadership was instated³⁹. The re-creation of YPFB has however been quite troublesome. The current president of YPFB, Carlos Villegas, was instated in January 2009 when it was discovered that his predecessor,

³⁸ Spanish original: *El Estado ejercerá, a través de Yacimientos Petrolíferos Fiscales Bolivianos (YPFB), su derecho propietario sobre la totalidad de los hidrocarburos*. See footnote above for link to Law 3058.

³⁹ Information available through the YPFB homepage. URL: <http://www.ypfb.gov.bo/hitos.php>

Santos Ramírez was involved in a serious corruption scandal. Villegas is the sixth president of YPFB since 2006, so the leadership of the company has been rather unstable since the nationalisation⁴⁰.

According to the supreme decree 29.511⁴¹ a new state owned company, Bolivian Company for Industrialisation of the Hydrocarbons (Empresa Boliviana de Industrialización de los Hidrocarburos, EBIH), should be created within 60 days after 9 April 2008. YPFB would be responsible for creating EBIH, and all the tasks connected to industrialisation of hydrocarbons should be transferred from YPFB to the new company. The creation of EBIH is also included in the 2009 constitution, but EBIH was not created until the end of November 2009, a year and a half behind schedule (La Razón 2009). The late creation makes it difficult to include an analysis of EBIH in this study, as the company has only existed for a few months and an analysis of its implementation skills would be premature.

It is clear that the many corruption scandals in YPFB have hurt especially the implementation of the industrialisation projects. The Santos Ramírez scandal stalled the implementation of the Río Grande liquid separation plant, and recent scandals have further weakened the image of YPFB as a capable company⁴².

3.2.6 Political Support

In Bolivia the Morales government has met strong opposition from the wealthier segments in the country. The political elite in Bolivia has always had strong ties to the country's economical elite, something that ended when Morales was elected with his base of support in the working class and farmers of the Bolivian highlands. The hydrocarbon rich departments in the lowlands, where the opposition is mainly led by rich landowners and an industrial elite that find their interests challenged by the government, have claimed

⁴⁰ Information from the newssite Ponte al Día. URL: <http://www.pontealdia.com/america-latina/seis-presidentes-de-ypfb-en-tres-anos.html>

⁴¹ Supreme decree 29.511 of 9 April 2008. Available through URL: <http://helpdesk.aduana.gov.bo:8010/publicar/documentos/CIRCULAR/gestion2008/mes4/circular0872008.PDF>

⁴² Information from the newssite HidrocarburosBolivia. URL: <http://www.hidrocarburosbolivia.com/bolivia-mainmenu-117/ypfb-petroleras-mainmenu-118/28438-tras-caso-de-corrupcion-en-ypfb-se-reactiva-construccion-de-planta-en-rio-grande-.html>

autonomy and stronger local control over resources (HidrocarburosBolivia 2008). The decision to nationalise the hydrocarbons has however not met the same opposition as many of the other reforms initiated by the Morales government⁴³. Many were afraid the radical politics of Morales would frighten investors in the sector. Yet, also many in the opposition agreed that something had to be done in the hydrocarbon sector, as such a small percentage of the revenues remained in the country and neighbouring, more developed countries were allowed to import cheap Bolivian gas (Breuer 2008:70).

The Bolivian Chamber of Hydrocarbons (Cámara Boliviana de Hidrocarburos, CBH) is the largest business association of companies working in the Bolivian hydrocarbon sector. CBH's headquarters are situated in Santa Cruz de la Sierra, capital of the rich eastern department where the Morales' government has low support compared to the rest of the country. According to the president of CBH, José Magela Bernardes (2009:4) the association has for a long time been in favour of strong national politics in the natural gas sector. He clearly states that the natural gas politics should be guided by development and technological concerns, rather than demagogic and short-term visions and he is positive to cooperating with the government and finding good solutions for Bolivia. The CBH president states support to the politics of the Morales government as long as it continues to emphasise the importance of public-private cooperation. It is clear that the CBH wants the Bolivian natural gas politics to stabilise and thus create a foreseeable working environment for the companies in the sector (Bernardes 2009:4).

In the annual hydrocarbon report of CBH in 2008, the association expresses a wish to continue developing the Bolivian hydrocarbon sector. They hope the administrative problems of YPFB will be solved in order for the whole sector to work together in the best interest of both the hydrocarbon industry and the Bolivian people (CBH 2008:4-9).

The social movements and organisations behind the political party of Evo Morales are a coalition of labour unions, peasants' movements and organisations working for human and indigenous peoples' rights. When Morales was re-elected president in 2009, he won with more than 62% of the votes. This demonstrates a strong support in the people for his

⁴³ Especially the revitalisation and strengthening of the land reform was received with sabotage and strikes in the lowlands. See the article "A year of Evo in Bolivia". URL: http://www.angus-reid.com/analysis/view/a_year_of_evo_in_bolivia/

politics. As the most profiled policy area under the first Morales government has been the hydrocarbon sector, it can be assumed that the government has strong popular support for its hydrocarbon politics. After the nationalisation of the natural gas in May 2006, the support for Morales went up from 68% in April to 81% in May in the monthly poll by Ipsos, Apoyo, Opinión y Mercado⁴⁴. The same year in November, polls conducted by Equipos MORI demonstrated increased content with Morales' presidential performance after he renegotiated contracts with international oil and gas companies, expressing that "all non-renewable resources belong to the Bolivian people"⁴⁵. An opinion poll conducted by Captura Consulting SRL in May 2007, shows that 73,6% of Bolivians support the nationalisation policies of the government⁴⁶. Another poll by Ipsos, Apoyo, Opinión y Mercado in June 2008 concludes that 56% of the respondents agree with the process of change and the politics of President Evo Morales and Vice President Álvaro García Linera⁴⁷.

3.2.7 Stability

The first significant turn in Bolivian natural gas politics after democratisation came under President Gonzalo Sanchez de Lozada in the mid 1990's. Sanchez de Lozada's government was neoliberal and strongly believed in privatisation of the hydrocarbon sector in order to attract foreign investment (Breuer 2008:70).

The Sanchez de Lozada government privatised the Bolivian natural gas sector in 1996 after many years of low activity and production. The state oil and gas company, YPFB was privatised and divided it in many small companies. This fragmented the control of the different parts of the sector and YPFB was no longer participating in the operative parts of the sector (PND 2006:99). After privatisation, foreign direct investment (FDI) increased and Bolivia was seen as a promising gas exporter in the region. The next president, Banzer, continued the same, non-proprietary politics in the sector.

⁴⁴ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/oil_policies_boost_morales_in_bolivia/

⁴⁵ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/morales_rebounds_after_oil_deals_in_bolivia/

⁴⁶ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/bolivians_support_nationalization_policies/

⁴⁷ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/bolivians_agree_with_president's_policies/

During Banzer's presidency, a new united front of peasants, workers, indigenous people, labour unions and leftist politicians joined in blockades, civil unrest and marches against the government and the politics of privatisation in Bolivia. These protesters formed much of the grassroots movement behind the political party Movement towards Socialism (MAS), and Evo Morales emerged as the leader of the party. Morales was a candidate in the 2002 presidential election, but he lost to former president Sanchez de Lozada (Breuer 2008:70).

When Sanchez de Lozada was re-elected he had a clear plan of increasing the development of the Bolivian natural gas sector. However, many Bolivians felt that the people received very little compensation for the natural resources that were extracted from their country. When Sanchez de Lozada launched a plan of exporting gas to the USA and Mexico through Chilean ports, the movements behind MAS started massive protests and demonstrations. Bolivia lost its coastline to Chile in the Pacific War (1879-1883) and recovering sea access has been a major issue in Bolivian politics ever since. That Chile could earn money from allowing Bolivian gas to be shipped through its territory, while the majority of Bolivians were still living in poverty, was not acceptable to MAS and the protesters. In September and October in 2003 they blocked the city of La Paz for several days. The president decided to send in military forces to end the blockade and several demonstrators were killed. These incidents have since been named the Bolivian Gas War. The killings led to a great drop in political support for Sanchez de Lozada. He was forced to resign after also losing the support and trust of his own vice president, Carlos Mesa over the gas issue (Breuer 2008:70).

In 2005, Evo Morales won the presidential election and MAS won majority in the National Assembly. One of the first major political steps of the Morales government was to re-nationalise the Bolivian gas sector in May 2006. The nationalisation and re-establishment of YPFB in 2006 were quite sudden, although expected based on Morales' election campaign. The international companies that were involved in the Bolivian gas sector at the time were left in uncertainty about compensation for the plants and assets that were taken over by the government. The public unrest and political instability that have occurred in the country from time to time since at least 2000, have also created a situation where potential investors are reluctant to invest due to the risks (Cauclanis 2006:4-6).

3.2.8 Case Conclusion

The clear dissatisfaction with the non-proprietary natural gas politics in the Bolivian population led to the fall of the Sanchez de Lozada government in 2003. The nationalisation of the hydrocarbons was in the cards for Bolivia after a political awakening in a population that felt their natural resources had been stolen for 500 years. There is no discussion in Bolivia on the ownership of the natural gas; all social classes agree that the resource should be developed to benefit the Bolivian people, also the ones that oppose Morales' politics in general. However, the radical rhetoric and the confrontational line chosen by the Morales government in the nationalisation process, has created uncertainty among investors and gas companies. The abrupt changes in the regulation of the gas sector and the political unrest that has also dominated after MAS came to power, has created an image of Bolivia as a country that is too unstable to invest in.

The main problem for attainment of the state's goals in the Bolivian gas sector is however the national oil and gas company YPFB. The operational skills the company had before the privatisation in 1996 are all gone, and the performance of the company after the nationalisation has been poor. In a country where corruption is widespread after decades of neglect by the judicial system, the opportunity to gain personally from the abundant gas reserves has been too great to reject for too many in YPFB and the cooperating companies, also for some of the government's most trusted officials.

The high turnover among YPFB leadership and officials leads to a very slow and inefficient implementation process. Planned projects are not implemented, production negotiations and contracts are delayed and subsequently the contracts for export and domestic delivery are not kept and this damages the image of Bolivia as a reliable natural gas producer.

Policies and goals that only require new legal regulation such as increasing the royalties and taxes in the gas sector, or concrete social political programs such as the school bonus for children, have been attained and demonstrate some success in the Bolivian politics related to the natural gas sector. Goals that require advanced technical solutions and a combination of investment and expertise such as industrialisation and pipeline

construction have however not been attained the way the government expected, mainly due to the inability of YPFB, but also because it creates uncertainty and scepticism among the companies in the industry when the government uses words such as “nationalisation” and “socialism”.

Looking at the effect of the independent variables in the analytical model, the Bolivian case is quite clear. Legislation is not a problem in this case. The hydrocarbon laws are recently updated and detailed, also on the implementation process and who is responsible for it. The government also has relatively high political support in their gas politics, both from the electorate and from the industry; the proprietorial governance model is gradually consolidating in Bolivia. The main obstacle to goal attainment is therefore the lack of skills and commitment among implementing officials and agents. This effect is however strengthened by other variables, such as the political ideology and the instability in the governance model that both create uncertainty among investors. These effects will be further elaborated in the next chapter.

3.3 Brazil

Brazil is the fifth biggest country in the world and the tenth largest energy consumer, the country is host to vast reserves of natural resources, also hydrocarbons (IEA 2003:141-144). Brazil's final democratisation came in 1985 after a ten-year transition period. The first democratically elected president, José Sarney, was unable to control the country's economy, and at the end of the 1980's Brazil had severe economical problems. After political changes and economical reforms in the 1990's, Brazil was considered politically and economically stable when Luís Ignácio Lula da Silva from the Workers' Party (Partido dos Trabalhadores, PT) was elected president in 2002 (Skidmore 2010:177-185, 232).



Figure 3.3. Map of Brazil with major cities⁴⁸

⁴⁸ Map from ABCpedia. Available through URL: <http://www.abcpedia.com/brasil/brasil.htm>

Brazil has a rich variety of energy sources. The main electricity source is hydropower, but there is also nuclear, solar and wind power production. Hydrocarbons, coal, biofuels, oil shale and uranium are produced and used as energy sources in Brazil, and also exported. Recently, great reserves of oil and gas have been discovered in the so-called pre-salt layers off the Brazilian south-eastern coast. Brazil became self-sufficient in oil supply in 2008 and is emerging as one of the possibly largest energy exporters in the region.

3.3.1 Brazil's Goals in the Natural Gas Sector

The government of Lula da Silva has launched several energy plans and programs. Some are quite narrow on specific projects, but there are also greater plans with goals for the years to come. One is Plangás that was launched in cooperation with the national oil and gas company Petrobras⁴⁹. Another is the Program for Growth Acceleration (Programa de Aceleração do Crescimento, PAC) that emphasises energy and development in general, and hydrocarbons are an important part of this program⁵⁰. It is necessary to see these programs as a whole together with political statements when finding the goals of the Brazilian government in the natural gas sector.

The Brazilian National Council for Energy Politics (Conselho Nacional de Política Energética, CNPE) is an assisting organ to the president. The CNPE is responsible for formulating the nation's energy policies and directives⁵¹. In the mandate of the CNPE, some of the main energy goals of the government are emphasised.

In the above-mentioned plans and programs, goals corresponding to four of the five categories in chapter two are found.

Energy goal. The first goal is to guarantee sufficient supply of natural gas in all of Brazil (Plangás 2007, PAC 2007, CNPE 2000). To attain this goal sufficient supply of gas has to be secured, either from internal production or from imports. Pipelines will have to be built in order to transport the gas, also to remote areas.

⁴⁹ See Petrobras' homepage. URL: http://www2.petrobras.com.br/publicacao/imagens/2942_pac_ing.pdf

⁵⁰ See PAC's homepage. URL: <http://www.brasil.gov.br/pac/>

⁵¹ See data on CNPE on the homepage of the Ministry of Mines and Energy. URL: http://www.mme.gov.br/mme/menu/conselhos_comite/cnpe.html

Economical goal. The second goal is to accelerate the production and offer of natural gas in Brazil to 40 million m³/day at the end of 2008 and 55 million m³/day at the end of 2010 (Plangás 2007, PAC 2007). In order to attain this goal, the production and transportation of natural gas in Brazil have to be increased.

Strategic goal. The third goal is to minimise the dependency on import of natural gas and establish Brazil as an energy centre in the region (Plangás 2007)⁵². The first part of this goal is directly connected to Bolivia's inability to secure increased supply of gas to Brazil. If this goal is to be attained, more gas has to be produced in Brazil and less should be imported from abroad. The export of energy from Brazil has to increase and export contracts have to be signed and implemented. Other countries in the region should see Brazil as a reliable energy exporter.

Social political goal. The fourth goal is to make natural gas available to all Brazilians, transporting gas to all regions (CNPE 2000). This is part of the program *Luz para Todos*⁵³ (Light to Everyone), where all Brazilian households shall get access to electricity and energy. The first goal of this program was to give 10 million Brazilians in rural areas access to electricity by 2008. The access to electricity should increase family income, better health conditions and education facilities and increase the security of families.

Brazil does not have explicit environmental goals for the natural gas sector. There is however an environmental perspective in the Brazilian energy politics, especially in the mandate of the CNPE, but this is mainly linked to the development of renewable energy and introduction of a percentage of biofuel in the hydrocarbon based fuels (CNPE 2000).

3.3.2 Goal Attainment

1. Energy goal. Petrobras is responsible for the gas supply in Brazil, and in periods of draught Petrobras has had to cut the gas supply to energy intensive industry in order to

⁵² See also information on the homepage of Grupo de Estudos do Setor Elétrico. URL: <http://www.nuca.ie.ufrj.br/blogs/gesel-ufrj/index.php?serendipity%5Baction%5D=search&serendipity%5BsearchTerm%5D=Plangás> and Bloomberg news. URL:

http://www.bloomberg.com/apps/news?pid=20601086&sid=aEjSQC6r1sdA&refer=latin_america

⁵³ See the Ministry of Mines and Energy's information page about *Luz para Todos*. URL: http://luzparatodos.mme.gov.br/luzparatodos/Asp/o_programa.asp

supply thermoelectric plants in areas that are normally supplied by hydropower. The consumption of gas in Brazil went up from 2005 to 2008. The production also rose, but not as much as the consumption (EIA 2010). Brazil's main supplier of gas is Bolivia, but due to unstable Bolivian deliveries Brazil is also importing LNG from outside the region. Secure supply is thus not fully guaranteed, but there are developments in the production and transportation system that is improving the security.

New pipelines have improved the transportation capacity in Brazil. A new pipeline connecting the southern and the northern transportation systems is ensuring that the gas imported from Bolivia can reach the north of Brazil where there is less hydroelectric capacity. It also ensures that gas from the coast can be transported to inland and remote areas such as Manaus in the Amazon. Another new pipeline connects the Solimões Basin, Brazil's second biggest gas reserve with the pipeline system. Associated gas from this reserve has previously been re-injected due to the lack of transportation possibilities, but will now be supplied to the market (LatinPetroleum 2009:11-12). Brazil's energy goal is thus partly attained.

2. Economical goal. The production of gas in Brazil has reached almost 60 million m³ per day and the goal of 55 million m³/day by the end of 2010 is thus more than fully attained (Viana 2010:69).

3. Strategic goal. Brazil is still depending on imports of natural gas, both from Bolivia and LNG from other countries, and despite new investments "Brazil is unlikely to reach self-sufficiency in gas production in the near future" (Cauclanis 2007b:12). However, with the new pipelines connecting the different parts of the country with the production fields and the new pre-salt reserves, it is probable that Brazil will be able to become self-sufficient in natural gas within a decade.

Many analysts see Brazil as an emerging energy centre not only in the region but also for overseas markets (Fletcher 2009:20-21). So far Brazil is not exporting natural gas, and the export of petroleum products is not higher than the import of such products (EIA 2010).

Paraguay, Uruguay and Argentina are likely regional markets for Brazilian gas, but great overseas markets such as China are showing interest in the increased Brazilian

hydrocarbon production. Petrobras has received investments from Chinese NOCs, and it is clear that China is willing to invest large sums in the security of future energy supply from Brazil (Fletcher 2009:20-21). So far however, Brazil is not a major exporter in the region. But the Organisation of Petroleum Exporting Countries (OPEC) is already interested in including the country among its members, so the possibility of Brazil becoming a major hydrocarbon exporter is seen as viable in not too many years.

4. Social political goal. The aim of the *Luz para Todos* program was to supply 10 million Brazilians with electricity by 2008; this goal was reached in 2009. In January 2010 more than 2 million families all over the country had received electricity through the program and the total number of persons benefited by the program was 11,1 million⁵⁴. The *Luz para Todos* program is scheduled to be finished in 2010. There will still be Brazilians living without electricity, but the new gas pipelines to the Amazon region has made it much more likely that also these remote areas will be connected to electricity. In very remote areas small, local centres for renewable energy are being constructed.

3.3.3 Political Ideology

President Lula da Silva is seen as the first socialist president in Brazil since 1964 (Skidmore 2010:229). However, his rhetoric rather places him in the political centre, and his actions demonstrate a pragmatic relationship to both the political right and left. For instance he visits and gives speeches at both the World Economic Forum in Davos in Switzerland and its opponent the World Social Forum in Porto Alegre in Brazil. The Lula government also consists of politicians from different parties, some with labour movement background, and others from the intellectual elite with an economics degree from a US American university (Skidmore:233-235).

Former minister of finance, Luis Bresser-Pereira (2009:25, 121-122, 232) argues that the Lula governments have continued the neoliberal economical politics of the predecessors and neoliberal thinking still dominates all the major political parties in Brazil. The Brazilian government can thus not be characterised as anti-neoliberal. There has nevertheless been a shift to the left from the Cardoso government, and the Lula

⁵⁴ Informativo Luz para Todos no.22 – January 2010 (downloaded 27 March 2010) URL: <http://luzparatodos.mme.gov.br/luzparatodos/downloads/Informativo%2022.pdf>

government has strongly opposed the US initiative of a Free Trade Agreement of the Americas (FTAA). Lula also emphasises cooperation between Latin-American countries, and these countries' right to sovereignty in financial decisions. On this note, he refuses to ally with the USA in cases against radical countries in the region such as Venezuela, Bolivia and lately the former president of Honduras.

3.3.4 Legislation

The main hydrocarbon law in Brazil came in 1997, when the Brazilian governance model was modified. Law 9.478⁵⁵ has been amended somewhat under President Lula, but the goals outlined above can all to some extent be found in the law.

The energy goal is incorporated in law 9.478, article 2, points 5 and 6. It is the responsibility of the CNPE to establish the necessary directives for imports, exports and production in order to assure sufficient internal supply of natural gas and electricity.

The economical goal is partly incorporated in law 9.478, article 1, point 10, stating that attracting investments to increasing the production of energy is one of the main objectives for the energy policies. The exact measures for production are not mentioned in the law.

The strategic goal is partly incorporated in law 9.478, article 1, point 11, stating that Brazil's competitive ability in the international market should be increased. Establishing Brazil as an energy centre in the region and diminishing the import of natural gas are however not incorporated in the law.

The social political goal is incorporated in law 9.478, article 1, points 6 and 7, stating that the percentage of natural gas in the energy matrix should be increased and made available in all the regions of Brazil and in article 2, point 2, stating that CNPE is responsible for policies to ensure sufficient energy supply in remote areas of Brazil.

According to law 9.478, CNPE is responsible for making policies for reaching the state's objectives in the energy sector and the national oil and gas company, Petrobras is responsible for the implementation of these policies. The National Agency for Petroleum,

⁵⁵ Law 9.478 of 6 August 1997. URL: <http://www.planalto.gov.br/ccivil/leis/L9478.htm>

Natural Gas and Biofuels (Agência Nacional do Petróleo, Gás Natural e Biocombustíveis, ANP) is also involved in the implementation, but mainly as concession granters.

3.3.5 Skills and Commitment of Implementing Officials and Agencies

The Cardoso government (1994-2002) privatised most of Brazil's state-owned companies in 1997. The state-owned oil and gas company, Petrobras and two hydroelectric companies were however not privatised (Skidmore 2010:236). Petrobras remained national oil and gas company, but its monopoly access to oil and gas fields in Brazil was withdrawn. The shares in Petrobras were divided in ordinary shares and openly traded shares, where only the ordinary shares have voting rights. The hydrocarbon law allows private ownership of Petrobras shares, but the Brazilian state has to maintain majority ownership of the voting shares, meaning at least 50% plus one of the ordinary shares. Currently the state controls 40% of Petrobras' traded stock and 55 % of the voting rights (EIF 2009b:2).

In recent ratings Petrobras is listed as one of the ten largest oil and gas companies in the world⁵⁶. The company operates in 27 countries across the globe and has almost 75 thousand employees⁵⁷. Analysts see Petrobras as a solid company. However, the fact that much of Brazil's energy policy is implemented through Petrobras is seen as a disadvantage to the company. For instance in periods of hydroelectric energy shortage, Petrobras has to divert its gas to gas-fired power stations, diminishing the more profitable supply to productive industry and export (Knight 2008:26). Petrobras was also negatively affected when their assets of natural gas in Bolivia were nationalised in 2006. An angry reaction and claim for compensation was however rejected by Brazilian authorities. The Lula government supported the Bolivian nationalisation in spite of domestic protests in Brazil, and Petrobras is now cooperating with YPFB under new terms to extract Bolivian gas (Knight 2008:27).

⁵⁶ Ranking available through the homepage of CBH. URL:

<http://www.cbh.org.bo/es/documento/ranking.pdf>

⁵⁷ See Petrobras homepage. URL: http://www2.petrobras.com.br/ingles/ads/ads_Petrobras.html and http://www.petrobras.com:80/ptcm/appmanager/ptcm/dptcm?nfpb=true&pageLabel=petr_com_conheca_empresa

Even if Petrobras operates outside Brazil and has its own agenda, it still answers to the Brazilian government and its policies. The leadership of Petrobras is appointed by the government, securing the loyalty of the company towards the president's politics (PIW 2010:3).

3.3.6 Political Support

In polls by the Instituto Sensus in 2006, the support for Lula lay steadily above 50% from April to July⁵⁸. In October the same year Lula was re-elected. The Brazilian president has had high ratings throughout all of his presidential period, also now at the end of his second and last term. As for the politics of Lula, a poll conducted by Ibope in June 2009 shows that 49% of Brazilians think their country is better prepared to handle the financial crisis this time than it has been under past crises, this number is followed by 24% that think Brazil is just as prepared as the country has been during previous economic crises⁵⁹. These polls show trust in the government and its management of the country, it can thus be assumed that the Brazilian public mainly supports the government's natural gas policies.

The Brazilian Institute of Petroleum, Gas and Biofuels (Instituto Brasileiro de Petróleo, Gás e Biocombustíveis, IBP) is a private organisation representing almost 200 companies in the Brazilian hydrocarbon sector⁶⁰. The president of IBP, João Carlos De Luca was interviewed in connection with the organisation's 50th anniversary in 2007 and said among other things that the opening of the sector to private companies in 1997 was the most important political event in Brazilian energy political history. De Luca is convinced that Brazil's energy diversity is very important, and he says he believes Brazil will be an even stronger energy power in the world in the years to come (Fontenelle 2007). In 2009 De Luca was interviewed in connection with the suggested new regulations for the newly discovered pre-salt fields, and he clearly expressed that he thinks it is a mistake to give priority to Petrobras in these fields and warned against a regulation in Brazilian

⁵⁸ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/more_brazilians_are_satisfied_with_lula/

⁵⁹ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/33616/country_in_good_economic_shape_say_brazilians

⁶⁰ See IBP's homepage. URL: <http://www.ibp.org.br/main.asp?Team=%7bA65EDC2D-02E0-4535-AF55-4E9FCC6EC4C7%7d>

hydrocarbon sector that is less open to competition. It can be derived from this that IBP supports the government's politics as long as it does not move in a more proprietorial direction⁶¹.

It is clear that the industry is sceptical towards the new regulations of the pre-salt area and especially the favouring of Petrobras. The independency of ANP has been questioned and some officials in the agency, wanting to remain anonymous, say they see a development towards CNPE taking over the oil and gas politics and that ANP is left out of decision-making⁶².

3.3.7 Stability

Even if the new regulations removed Petrobras' monopoly in the Brazilian oil and gas sector in 1997, the sector was privatised to a much smaller degree than the rest of the Brazilian economy. Petrobras was to remain the flagship of the Brazilian energy sector, a sector that was mainly occupied with supplying the domestic energy market. The Brazilian oil and gas reserves were opened to international companies, and Petrobras was allowed to operate outside Brazil, often in cooperation with other national oil and gas companies, and mainly with the aim of importing oil and gas from other countries to Brazil (Skidmore 2010:225).

When Lula was elected in 2002, many of his supporters expected a shift to the left in Brazilian politics. However, as previously mentioned, Lula's politics are a rather pragmatic mix of neoliberalism and socialism, and the current government has not revoked the privatisations of the Cardoso government. But Lula has not liberalised the economy further, and in the energy sector the development has rather been towards a more proprietorial management (Skidmore 2010:236).

With the discoveries of the huge pre-salt oil and gas fields off the Brazilian coast, the government has made new regulations for exploration and production in these fields. The

⁶¹ Information from the newssite Diário do Pré-sal. URL:
<http://diariodopresal.wordpress.com/2009/08/31/ibp-critica-decisao-do-governo-por-operador-unico-no-pre-sal/>

⁶²Information from the newssite biodieselbr.com. URL:
<http://www.biodieselbr.com/noticias/energia/pre-sal-anp-perder-poder-05-06-09.htm>

concession model will be replaced by a production-sharing model with Petrobras involved in all new fields (Watkins 2009:27-28). The government has also issued new shares in Petrobras to attract more capital to the company, but the state will still hold the majority of the voting shares, so Petrobras is still under political control (EIF 2009b:2). A new, fully state owned company, Petrosal will be created to administer upstream licences in the new pre-salt fields and Petrobras will hold a minimum 30% stake in all these fields. Brazil is thus moving towards a more proprietorial model, knowing that the pre-salt fields are so attractive to investors that they will agree to the new terms in cooperation with Petrobras. Brazil will also most likely favour domestic producers in the supply industry, something that worries analysts and the international oil companies that are afraid Brazilian producers will be chosen over others that can offer better quality and prices (EIF 2009a:2).

3.3.8 Case Conclusion

The Brazilian natural gas sector has increased considerably the recent years. With the new discoveries of the pre-salt fields there is optimism among all; population, government and industry. The government has been quite successful in attaining its goals in the sector and has been determined to invest enough to see giant pipeline projects implemented, benefitting both the consumers and the producers.

There is a clear pragmatism in Brazilian hydrocarbon politics. The in-theory leftist government has managed to keep the trust of the international market and the IOCs with avoiding to use radical rhetoric and not suggesting abrupt changes in the management and regulation of oil and gas. The government has nevertheless slowly moved in a more proprietorial direction, waiting to announce the changes until the probability of great pre-salt reserves was almost 100%.

Despite changes in the political parties and the ideology of the government, the norm of political control over the hydrocarbons and Petrobras has been maintained in Brazil, also after the opening of the sector in 1997. Petrobras has grown to become one of the leading oil and gas companies in the world, and Brazil has thus created a steady implementer of the government's policies in the sector.

The one major threat to the Brazilian gas sector would be if the pre-salt fields turn out to be a failure, either because they are too difficult to exploit or because the reserves are not as great as expected. The likelihood of this happening is however very small. It is much more likely that Brazil will emerge as the major hydrocarbon producer and exporter in the Americas within a decade.

The success of Brazil in this sector is probably mainly a result of keeping a pragmatic middle position between proprietorial and non-proprietorial management also during the neoliberal wave, thus keeping Petrobras loyal to Brazil but allowed to explore and increase its potential in other countries, all the time developing to become the skilled and trusted main actor in the exploration of Brazil's own reserves.

The popular support for the Lula government may also have influenced the success in the natural gas sector. The middle class in Brazil has increased with 25% during Lula's presidency, showing that poverty reduction is possible (Pettersson 2010). The pipelines constructed to supply new areas with gas have been expensive, but the possibility of more than 10 million new Brazilians being able to use refrigerators, televisions and computers is popular politics, also among the upper class as they profit from the new consumers.

Analysing Brazil along the lines of the analytical model, it is clear that the country has high scores on all the independent variables. It is worth noticing that the neoliberal political ideology of the governments in the 1990's did not lead to full privatisation of the hydrocarbon sector. The regulation moved in non-proprietorial direction, but the governance model was still mainly proprietorial. This stability of the governance model in the sector has probably had a very positive effect on the goal attainment in Brazil. How important the different variables are, is however easier to analyse in comparison with the other two cases in this study.

4 Analysis

This chapter will analyse the collected data from the case studies according to the theoretical framework outlined in chapter two. The aim of the first part of the analysis is to determine which factors have influenced the goal attainment in each of the three countries and which factors can explain the differences in goal attainment between the countries. The emphasis in the chapter will be on the comparative analysis, and through this analysis the different variables' effect in each case will be discussed, leading to a comparison between the cases. As the cases are interdependent in the gas sector, the within-case analysis of each case will not be separate from the comparative analysis; a complete picture of each case can only be seen in the light of the other two cases. The second part of this chapter will analyse this interdependence and the possibilities for energy integration between the three countries. Integration is dependent on cooperation and coordination in the gas sector between the countries.

The three qualitative case studies have been conducted with the same structure in order to ensure comparability between the cases.

Argentina has four goals in the natural gas sector, but has only been able to partly attain one of the goals. From being a regional exporter of gas, Argentina is currently a net importer, struggling to attract investment to the development of new oil and gas fields.

Bolivia has six goals in the natural gas sector and has only been able to partly attain two of them. Development of the natural gas sector has been the main issue on the Bolivian political agenda for almost a decade, but a high level of political conflict has given investors the impression of an instable country.

Brazil has, like Argentina, four goals in the natural gas sector, and has been able to attain two of them, while two are partly attained. Brazil is scheduled to become the largest hydrocarbon producer and exporter in the region within the next decade and the government has been able to combine the economical development of the last years with a social development, leading to increased living standards for many poor Brazilians.

In order to compare and analyse the goal attainment in the three countries it is useful to narrow the information down in a structured table.

	Argentina		Bolivia		Brazil		Level of ambition
	Goal	Att. ¹	Goal	Att.	Goal	Att.	
Energy goal	Energy security for all of Argentina	No	Self-sufficiency of energy	No	Sufficient supply of gas in all of Brazil	Some	Approx. the same in all cases
Economical goal 1	Increased production and income	No	Increased income from the gas sector	Some	Accelerate production to 55 million m ³ /day in 2010	Yes	Approx. the same in all cases
Economical goal 2	n.a. ²	n.a.	Industrialisation of the gas sector	No	n.a.	n.a.	More ambitious than the other economical goals
Strategic goal	Regional energy integration	Some	Emerge as a regional energy centre	No	Minimise the dependency on import of gas and emerge as a regional energy centre	Some	Approx. the same in all cases
Social political goal	Supply poorer provinces with gas	No	Eradicate poverty with income from gas	Some	Electricity to all Brazilians (10 million by 2008)	Yes	More ambitious in Bolivia, about the same level in Argentina and Brazil
Environmental goal	n.a.	n.a.	Substitute oil with gas	No	n.a.	n.a.	n.a.

¹Attained ²n.a. = Not applicable

Table 4.1. The goals, ambition levels and goal attainment of the cases

Studying table 4.1. and comparing the goals of the countries it is clear that the three countries have many of the same goals and approximately the same level of ambitions. Bolivia has two goals that are more ambitions than the corresponding goals of the other two countries. This may be due to the fact that the gas sector has high priority in Bolivian politics and has been one of the main policy areas since MAS gained power in 2005. Bolivia's second economical goal, industrialisation, is quite different from the economical goals of Argentina and Brazil. This shows the importance of the gas sector for industrial development in Bolivia, a country that mainly exports raw materials and minerals. Industrialisation is already developed in the two other countries, where the import substitution politics under the military dictatorships created solid and diverse domestic industry.

Studying each case separately, it is clear that the attainment of goals within each country is interconnected. If for instance projects of pipeline construction are not realized, it is difficult to increase production, distribution, export, supply and income. Brazil is the only country that has not failed to attain any of its goals. Seeing that the goals are approximately at the same level of ambition in all three countries, it is interesting to study if any of the independent variables can explain why Brazil has been so much more successful than the other two countries.

4.1 Comparative Analysis

The aim of this analysis is to draw the line from the analytical model through the empirical case studies in order to answer the initial research question: *What can explain states' goal attainment in the natural gas sector and the differences in such goal attainment between countries?*

Analysing each case separately would give an indication of the relationship between the independent variables and the dependent variable in the three countries. The effect of the independent variables on the dependent variable, goal attainment, will however mainly be possible to measure and analyse when comparing the cases and seeing how the success in one case makes it easier to explain the lack of success in other cases and vice versa. In accordance with Levi-Faur (2006), the results of this analysis are mainly sector-specific,

rather than country specific. Therefore, it makes sense to integrate the within-case analysis in the comparative analysis. This section also aims to study whether and how the different variables seem to affect each other.

4.1.1 Political Ideology and Communication

Different political ideologies give different solutions to the path towards goal attainment. According to Mommer (2002) the policy alternatives derived from neoliberal ideology would give poorer results in the natural gas sector as the non-proprietary governance model preferred by neoliberals gives the state little control over the sector.

All the three governments in this study are based on a leftist ideology and can be placed to the left of most of their political opponents in their respective countries. Whereas the Bolivian and the Argentine governments clearly express anti-neoliberal views and scepticism about the moral of the private companies that invest in the hydrocarbon sector, the Brazilian president has kept an almost neutral rhetoric, pragmatically supporting both social justice and liberal financial policies. The main difference between Brazil, that has been quite successful in the natural gas sector, and the other countries, that have not been very successful, is how political ideology is communicated.

It does not seem like the differences in communicated ideology have led to differences in the governance model in the hydrocarbon sector. Despite the rhetoric, the governance model in Brazil is not less proprietary than the Argentine model. The new regulations in the Brazilian pre-salt with production-sharing agreements instead of concessions are also quite close to the nationalised Bolivian model. The political ideology and the governance model in the three countries are thus quite similar, and it can therefore not explain the differences in goal attainment. The assumption that neoliberal ideology would lead to less goal attainment cannot be tested as none of the governments have a neoliberal ideology. It is therefore probable that other variables apart from political ideology can explain the Brazilian success in the gas sector compared to its neighbours.

It is nevertheless an important variable as political ideology seems to have an effect on the political support. Whereas the population in the three countries is positive towards anti-neoliberalism and stronger state regulation, the industry is afraid other concerns than what

is best in a market perspective will guide the sector if more is controlled, decided and regulated by the state. If the ideology is too radical, the industry and the potential investors tend to react and warn against a more proprietorial governance, and private companies will be reluctant to invest. The political rhetoric of the three governments varies and it seems like Brazil gains political support from avoiding to be too radical.

4.1.2 Problems Despite Legislation

From previous studies in implementation theory (Sabatier 1986:27), it is expected that goals incorporated in law will be easier to attain, as legislation gives strong incentives for implementation. If an entity is legally responsible for the implementation it is likely that the entity will feel obliged to implement the policy and work towards goal attainment.

The degree of legislation does not seem to have an impact on the attainment of goals in this study. All the countries have hydrocarbon laws and most of the states' goals in the natural gas sector are covered by legislation. The law in each case also specifies the entity responsible for policy implementation. Comparing the results of the empirical studies of this variable, the goals of Brazil are actually somewhat less incorporated in law than the goals of the other two countries, but also the Brazilian law clearly states what entity is responsible for the implementation of the goals.

The results of the comparison do not imply however, that less legislation leads to higher goal attainment, the natural gas sector is a complicated policy area where legislation is necessary. That Argentina and Bolivia are not able to attain goals even if both the goals and the implementation are incorporated in law, does not mean that legislation is not important, legislation is however not enough to ensure implementation of the goals.

The tendency showing that legislation seems to have little effect can have various explanations. One explanation could be that legislation in the natural gas sector does not contribute as much to goal attainment as it does in other policy areas. It could also be that legislation contributes more to goal attainment in the gas sector in other regions such as Western Europe and the USA, where the implementation theory was developed, and that the Southern Cone countries differ from other regions when it comes to this variable.

Conducting a comparative study on this remains nonetheless outside the scope of this analysis and will therefore not be further elaborated here.

4.1.3 Skills and Commitment, Keys to Success

The implementing officials and agents are the actors working to implement the policies that are meant to lead to goal attainment in the gas sector. According to implementation theory, it is much more likely that goals will be attained if these implementers have the necessary skills, knowledge and experience. The implementers' commitment to the goals is also important. If they disagree with the goals or prefer to concentrate their efforts on other issues, the goal attainment will likely suffer.

As demonstrated in the case studies, it is evident that in a sector as technically complicated as the natural gas sector, the implementer of goals connected to production and transportation should be a gas company. If the company responsible for implementing the goals does not have the necessary skills, capital and expertise, it depends on agreements and contracts with other companies in order to start implementation.

The attainment of all the goals in the natural gas sector mainly depends on the ability to produce and distribute gas. If no gas is produced or transported, none of the goals are likely to be attained. One of the main features distinguishing the sector from other policy areas is the great amount of capital investment that is needed in order to attain goals. The other necessity for development in the sector is knowledge. Countries that have neither capital nor knowledge depend on attracting these two elements to their gas sector. The measures needed to attract capital and knowledge are however not always politically feasible.

The nationalisation of hydrocarbons in Bolivia and the concentration of responsibility for the sector in the inexperienced company YPFB, have damaged Bolivia's attractiveness for both capital and knowledge. In 2003, when the non-proprietary governance model had been consolidated in the sector and investment and knowledge was available for the development of extraction and export of gas through Chile, the political situation changed, and altering the governance model in proprietary direction was the only politically feasible solution. This led to nationalisation and caused an instability in the governance

and regulation that scared off capital investment. The subsequent inability of YPFB to attract knowledgeable partners prolonged the low development both upstream and downstream. As seen in the case study, corruption and personal interests of YPFB officials have been proven to guide many of the contracts within industrialisation of the gas sector in Bolivia, causing delays and cancelations of projects. It is therefore probable that lack of skills and commitment among implementing officials is one of the main reasons for the lack of goal attainment in the Bolivian gas sector.

In Argentina, Enarsa was created as a state-owned company without capital and knowledge. Enarsa has been able to attract some capital and knowledge partners, but mainly on the terms of the partners. The extensive investment, production and distribution needed in order to attain Argentina's goals have not been realized. Enarsa has not been able to convince other companies to contribute to the implementation of goals in Argentina. Either the private companies have not accepted the terms of Enarsa, like the conservation of low domestic gas prices, or the risk has been too high and the revenues too uncertain as in the case of the offshore fields and the north-eastern pipeline. The skills and experience of the implementing agent in Argentina have thus been too weak to ensure implementation of the goals.

Brazil, on the other hand has developed enough knowledge in Petrobras that development both upstream and downstream can be realized as long as investment capital is successfully attracted. Keeping Petrobras as a state-owned company that is allowed to operate freely also outside Brazil, has created a company with the sufficient skills to be trusted and regarded as one of the most solid oil and gas companies in the world. The state ownership has also kept the company's commitment and loyalty to the Brazilian government and the development of both politically and economically feasible energy policies in Brazil. The position as a solid company operating internationally also makes it possible for Petrobras to obtain loans for investments in new projects.

A skilled and committed national gas company is thus important for the goal attainment in the gas sector, especially when some of the goals are more social political than economical. Brazil's focus on developing Petrobras has given the government an important and necessary tool in its policy implementation process, something that is

missing in the two other countries in this study. The gas sector is both knowledge and capital intensive. Countries without knowledge and capital have to compete with other countries in the same situation in attracting capital and knowledge to their gas sector. The companies that can offer these two factors are often private oil and gas companies operating in the international market. In a country with a non-proprietary governance model, private companies will earn more money faster than in a country with a proprietary governance model where the state collects a higher ground rent, other factors being equal. Being the implementer of national gas policies, the national oil and gas company is often responsible for attracting capital and knowledge to the country's gas sector. In a country where the natural gas is seen as a common good, and the implementer is responsible for both production and redistribution of income, it is hard for the implementer to attract sufficient capital and knowledge from the private market. A small national oil and gas company that cannot give private companies very favourable contracts, easily loses in the competition with other countries when trying to attract investment and knowledge.

4.1.4 Variances in Political Support

Different groups in society are affected by the government's politics. In a democratic country the various opinions of these groups can be expressed freely in several ways. In general it is easier for the government to implement policies that are supported by the people, the electorate. In each policy area there will be some interest groups that will be especially affected by policies, and the support of these groups can be decisive, as they are often powerful and may even be part of the implementation process. In the natural gas sector, it is expected that the goal attainment will be easier if the policy is supported by the gas industry and the companies operating there. At the same time popular support is also important as unpopular policies are more difficult to implement.

The governments in all the three case countries have a proprietary view on the natural gas resources as they see them as national capital, the property of the people that should benefit the population. They do not trust the international private companies to always have the best interest of the population in mind, and therefore believe in state intervention and regulation of the natural gas sector.

Besides the national oil and gas companies, all the three countries in this study have a gas industry involving several small and large private national and international companies in all parts of the production chain. From the statements of the business associations in the gas industry, it is clear that the industry is against increased state control in the sector. The industry is in favour of public-private cooperation and afraid of regulations favouring some companies and constraining free competition and independent decisions. The business associations in Brazil and Bolivia seem more in line with the governments' view of natural gas as a common resource that belongs to the people and should be developed to benefit the population. In Argentina the industry clearly wants the population to pay more for gas in order to finance development. It sees the population mainly as consumers of gas in the market, not as owners with special rights to the gas reserves.

Non-proprietary ownership has been tried in Argentina and Bolivia, but the people in both these countries favour a proprietary model. Neoliberal politics are blamed for the financial problems of these countries and the people wants the natural resources to be under democratic control through active state ownership rather than in the hands of foreigners and international companies. In Bolivia, especially, this popular support for proprietary governance has strong ties to the feeling of being exploited that dates back to colonial times. Many Bolivians are determined that the history of shipments of silver and other resources to Europe without compensation in the 17th and 18th centuries shall not repeat itself with natural gas. This is also in accordance with Mommer's (2002) theory that a country such as Bolivia would loose from choosing a non-proprietary governance model.

In Argentina especially, the government is in a squeeze between what the electorate wants and what the industry experts claim to be the best solution. If the Argentine government chooses to liberalise and increase gas prices for all consumers, it risks losing politically. If it wants to keep the current governance model, it has to find investors that are willing to invest in spite of high risk and possibly low revenues. As discussed in the case on Argentina, it may be possible to attract investment from national oil and gas companies from countries that are mostly interested in the energy from the hydrocarbons and not as much in the direct capital revenue, such as China. As an example and parallel, the

investments through Petrobras in Bolivia are seen as projects mainly to supply Brazil with gas, not to maximise the income of Petrobras.

The investments needed for gas production offshore in Brazil and Argentina are far larger than what is needed on land in Bolivia. Attracting major state-owned companies from countries with energy shortage may be the most viable solution if Argentina and Brazil want to develop their gas sectors without moving in non-proprietary direction. As mentioned China has already made heavy investments connected to the Brazilian pre-salt reserves and Enarsa is also looking to Asia for new investments in Argentina's oil and gas fields.

The low popular support for the Argentine government may also be connected to the failure to attain social political goals, which would mean that the effects in the analytical model move in both directions. In all the three countries inequality and corruption are severe challenges, and the people have often enough seen that new income from natural resources has been corrupted away, increasing the inequality when it instead could have contributed to a more equal distribution. In Brazil the government has successfully implemented its social political projects, sending the signal that increasing the living standard in poor and remote areas is a priority. In Bolivia the social political programs have been much smaller than in Brazil, but the poverty in Bolivia is severe and has been neglected for so long that any recognition and investment by the government is seen as an important step forward.

The subsequent popular support of the governments in Brazil and Bolivia gives these governments the democratic legitimacy to oppose pressure for liberalisation from the private industry in the gas sector. Whereas in Argentina, where the popular support for the Kirchners is falling, the industry can pressure for a change of the governance model, arguing that the proprietary model does not yield the results the electorate wants.

Comparing the development of the gas sectors in Argentina and Bolivia in the light of the above discussion and trying to predict the future development, it seems more likely that Bolivia will be able to succeed in the long run. The Bolivian economy is small, and goal attainment in the gas sector would thus have a great impact on the country's economical development. The different actors in the sector; government, industry and popular

movements are therefore working towards a common goal. The corruption in YPF and the arguing and disagreement in other policy areas are however preventing a fruitful cooperation between the actors towards goal attainment. In Argentina natural gas is one of many industrial sectors, and the gas industry does not feel that it has any greater responsibility than other sectors for reducing inequality in Argentina.

It is interesting to note that political support and goal attainment affect each other. It is easier to attain goals if the electorate and the industry are positive towards the policy, such as in Brazil. However, it is just as easy to lose support, especially in the electorate, if goals are not attained and it looks like there is only talk and no action, as in Argentina. The time aspect is also important here. There may be political support when the goals are launched, but if goals are not reached within the expected time, the lack of attainment starts to influence the support negatively. Time may also explain the differences between Argentina and Bolivia when it comes to political support. The Kirchners started implementing their gas policies in 2004, whereas MAS came to power in Bolivia in 2006. In Bolivia the public and the industry are still giving the government some more time to attain the promised goals, while their equivalents in Argentina are using the lack of goal attainment as an argument against continued support of the government. The mutual influence in the analytical model is thus increased over time.

4.1.5 The Importance of Governance Model Stability

Mommer (2002) argues that stability in the governance of natural gas will increase the probability of successful development in the sector. The countries can choose between different governance models from the non-proprietary model with passive state ownership to the proprietary model where all parts of the sector are nationalised. Changes in the governance model cause instability in the sector, something that alters the predictability, trust and structures that are necessary for successful development, especially if the changes are abrupt.

All the three countries opened their oil and gas sector to international companies in the 1990's. Whereas the sector was fully privatised to the same extent as the rest of the economy in Argentina and Bolivia, Brazil kept political control and ownership of

Petrobras and the upstream production after opening the hydrocarbon sector to competition.

As mentioned, the natural gas sector is a sector that needs time to develop. The investors bind their capital in projects that take several years to develop, and they risk losing their money if the gas fields turn out to be smaller than expected or the host country for some reason changes the regulation or decides not to exploit the gas after all. In the two countries that have changed their governance model two times, first from proprietary to non-proprietary and then back, Argentina and Bolivia, a major challenge for the goal implementers in the natural gas sector is that investors are afraid to invest in case the regulations change again. Brazil has managed to create predictability in its natural gas sector, and even if Brazil also has had financial problems since democratisation, the country is considered a relatively safe haven for investments, also in long-term sectors.

Mommer's theory that "the stability of public mineral governance depends not so much on the economy but on the political, legal and institutional structure of the country" (Mommer 2002:230) is thus supported by this case study. It is not as important to the private companies where the country they invest in can be placed on the scale between proprietary and non-proprietary, as long as the governance model is stable and major changes altering the investor's cost/benefit calculations are not likely.

4.1.6 Summary of Comparison

Comparing the three cases in this study, it is clear that Brazil has been much more successful in its goal attainment than the two other countries. What distinguishes Brazil the most from the other countries is the stability in the governance model in the hydrocarbon sector and the skills and commitment of its implementing company, Petrobras. These two variables are not independent of each other. If Argentina and Bolivia had not changed to a non-proprietary model and sold off their national companies YPF and YPFB in the 1990's, these companies would probably have been more committed and skilled for the attainment of goals than the current Enarsa and YPFB are. Stability in the governance model in the natural gas sector therefore has a positive effect on other decisive factors for goal attainment.

The view that natural resources belong to the people is consolidated in both Bolivia and Brazil, and also in the public opinion in Argentina. State control of the natural gas sector is seen as democratic control, and a non-proprietary governance model is thus considered non-democratic. Changing back to a non-proprietary model in Bolivia and Argentina would most likely attract investment, but it would also most likely be political suicide for the current governments.

4.2 Interdependence and Integration

Recalling chapter two, integration is defined as “a process of creating cohesion between two or more social units whereby these units come to constitute a whole which can in some cases be described as a community” (Dokken 1997:114). The Southern Cone countries already have organisations for regional integration, mainly MERCOSUR consisting of Argentina, Brazil, Uruguay, Paraguay and Venezuela with Bolivia and Chile as associate members and the new organisation UNASUR consisting of all the South American countries⁶³. Integration in the natural gas sector has been an issue in the region for decades, starting with discussions in the 1950’s and pipeline construction between Bolivia and Argentina 20 years later (Mares 2004:1). Before the energy crisis in Argentina in 2004, regional gas integration was predicted to steadily increase. However, the popular uprising to prevent Bolivian export of gas through Chile and the Argentinean decision to prioritise its domestic market instead of keeping the gas export agreements with Chile, again created mistrust in the idea of gas self-sufficiency in the region. An energy integration process has thus been on the agenda for more than half a century, with various steps taken forwards and backwards. This analysis will focus on how the developments in the gas sectors in Argentina, Bolivia and Brazil studied so far in this thesis, have influenced the integration in the gas sector between the three countries.

In 2004 Argentina clearly stated it as a goal to integrate the natural gas sector in the region. And, as outlined in the case study of Argentina and shown in table 4.1., this goal has been partly attained. This is mainly due to the fact that the actors, the governments in the Southern Cone countries, *perceive* gas integration to be in their best interest. New

⁶³ The twelve South American countries are Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Surinam, Uruguay and Venezuela.

export agreements and joint projects in the gas sector are often discussed at the highest political level, and the presidents in Argentina, Bolivia and Brazil often visit each other and hold common press conferences to talk about new energy integration projects. However, and some would say this is typical to the general culture in the region; many of the agreed cooperation projects are postponed or never realized. The will to integrate is thus not followed up with integrating projects. The following sections will analyse aspects of integration in the gas sector in Argentina, Bolivia and Brazil.

4.2.1 Energy Security

Energy security is a high concern of all the countries in the case study. They all have goals connected to energy security and sufficiency, but these energy goals seem to be the most difficult to attain. Only Brazil has reached some attainment of this goal. Both Argentina and Brazil depend on gas imports from Bolivia in order to reach their energy goals. That the Bolivian gas production has been lower than expected and the export subsequently uncertain, has caused some of the problems with energy security for Argentina and Brazil. This is a good demonstration of how the three countries are interdependent in the gas sector and how goal attainment in one of the countries would benefit the other countries in the region.

As demonstrated by the comparative analysis above, the obstacles to attaining energy security through gas cooperation lie mainly within each country. The climate for negotiations between the countries is good, there are few disagreements and the cultural and language barriers are small. However, from the decades of military control of the three countries in this study, a scepticism about the intentions of the others have survived in the populations, and giving up sovereignty in order to have an institution above the national level in charge of energy security is difficult.

The developments in the gas sector in the region, outlined in the empirical part of this study, demonstrate that the countries first and foremost think of their own energy security and would prioritise to secure its own population before keeping bilateral agreements. The problems with goal attainment in Argentina and Bolivia have caused the neighbouring countries to look for gas providers outside the region. The bilateral agreements between

the countries do not have strong enforcement mechanisms. The implementation of the agreed projects is the responsibility of each country, and if this is not done, there is no punishment.

4.2.2 Spillover

It is easy to say that the integration between the three countries has rather decreased than increased lately due to the development in the gas sector, but even if integration in the natural gas sector does not happen, all the meetings and agreements may still affect and spill over to cooperation in other areas.

The governance models in the natural gas sector in the three countries are becoming more similar and this may be due to more communication on energy issues. The experiences with more state control in the gas sector have probably been discussed and then “spilled over” between the neighbours, resulting in similar governance. This is also clear in the public opinion, where Argentines say they want more nationalisation, referring to the Bolivian gas reforms⁶⁴. If the countries keep following the same proprietorial pattern, Argentina and Bolivia may develop a more stable sector and integration between the countries may be intensified in the future, since some of the main problems in Argentina and Bolivia will probably decrease with governance stability.

4.2.3 Ideology

Mares (2006) argues that one of the main reasons for low integration in Latin America is that different political ideologies stand against each other. In the three countries in this study the political ideologies of the governments are relatively similar, and they are all in the group that prefers increased integration in the region without US American influence. This makes it easier for the three countries to agree on bilateral agreements as they understand the views and needs of each other. A multilateral agreement between Argentina, Bolivia and Brazil is however unlikely without the participation of the other Southern Cone countries. Such an agreement would be harder to reach as both the

⁶⁴ See data from Angus Reid Global Monitor. URL: http://www.angus-reid.com/polls/view/argentina_ponders_energy_nationalization/

ideological and the historical differences are bigger. Particularly the bad relationship between Bolivia and Chile is difficult to overcome. Argentina and Brazil however, cannot be expected to seek a multilateral gas agreement without Chile, as Chile would be the largest gas market for exporters in the region if Argentina and Brazil reach full self-sufficiency.

Bolivia is a landlocked country and depends on ports in the neighbouring countries if it wants to export gas outside South America. As the geography to the north and east of the department of Tarija, where most of the gas reserves are located, is rather impenetrable, Bolivian gas has to be exported west or south. In the current political situation it is easier for Bolivia to negotiate for port access with Argentina and Brazil in the south, than with Chile and Peru in the west.

4.2.4 Four Dimensions of Policy Coordination

To say there is a community or a political whole in the gas sector in Argentina, Bolivia and Brazil would be an exaggeration. There is clearly an interdependence that is dealt with bilaterally, but the idea of a common gas policy is not present. The countries are however eager to cooperate and to support each other's sovereign rights in the gas sector. This cooperation may, more or less intentionally, lead to an assimilation of the gas policies in the three countries, setting the stage for common policies in the future.

Analysing Moravcsik's (quoted in Dokken 1997:114) four dimensions of policy coordination, the first two, *geographical scope* and *range of issues*, have initially been restricted to the three case countries and the natural gas sector, respectively. These two aspects will therefore not be further analysed here. The third dimension, *the institutions of joint decision-making, implementation and enforcement* has been somewhat outlined above. The organizations for cooperation in the region usually make vague decisions on energy integration and the implementation is often left to be sorted out within countries and in bilateral agreements. As demonstrated in the GNEA pipeline integration project between Bolivia and Argentina, the enforcement is weak. None of the countries constructed their part of the pipeline within the deadline in the agreement. Still, all that

this lack of compliance has resulted in is a new agreement between the countries on the same project, both countries hoping it will be implemented this time.

In the emerging leftist ideology in the continent, sovereignty is a very important aspect. The movements and parties behind the new leftist wave have grown and gained support based on the popular dissatisfaction with the US American interference in political processes in Latin America. The neoliberal politics are seen as US dominated and a threat to the sovereignty of the South American countries. With MERCOSUR, UNASUR, OAS⁶⁵ and other summits and meetings, the arenas and also institutions for discussion and joint decision-making are abundant. These institutions are however not responsible for implementation and enforcement. To the leftist governments in the Southern Cone, an institution that can intervene and enforce compliance with agreed decisions resemble the practices of IMF and the World Bank with their conditional support to economic policies in the 1990's. The new leftist governments want to support each other without conditions. Criticising the politics of other governments is seen as disrespect for the other's sovereignty (Mares 2006:96). An institution that can interfere in the policy implementation in a member country and *enforce* compliance in integration projects in the gas sector, has therefore not emerged.

The fourth of Moravcsik's (quoted in Dokken 1997:114) dimensions, *the direction and magnitude of substantive domestic policy adjustment*, is not very extensive in this case. The countries have not been obliged to change their policies in an integrating direction. For instance in the case of Argentine export of gas to Chile, the original agreement had a non-discrimination clause between Chilean and Argentinean consumers. But when the energy crisis emerged in Argentina in 2004, the Argentine government decided to prioritise domestic supply, cut supply to the Chilean consumers and adopt new resolutions that made it illegal to not prioritise gas to Argentines (Montamat 2009:13). There is also an element of democratic control when it comes to this dimension (Mares 2006:96). The three countries all see natural gas as the property of the people. An institution of integration with the mandate to enforce adjustments in domestic policy could be seen as altering the democratic control over the resources. A control that leftist ideologists see as re-gained after the neoliberals gave it to the market in the 1990's.

⁶⁵ The Organisation of American States

On the other hand, the political turn to the left that has occurred in Argentina, Bolivia and Brazil since 2000, has led to more cooperation in general and has increased the countries' perception of energy integration as a desired process. If the ideological friendship continues past the coming elections, the increased stability in both the gas sector and in the relationships between the countries will probably give the governments incentives to help each other attain goals in the natural gas sector, increasing the integration between the countries.

5 Concluding Remarks

That states with abundant natural resources are able to develop and export these resources is essential for states without own resources. The potential values of natural gas as an energy source and as a more environmental friendly alternative to oil and coal, are some of the main incentives for studying how states manage their gas resources, and also to study why plans do not always succeed even if the state has a clear will to develop the sector in the best interest of its own people and other peoples with energy needs.

This study has shown that clear goals, political will and adequate legislation are not enough to ensure goal attainment and success in the gas sector in the Southern Cone. The clear difference between the success in Brazil and the lack of such in Argentina and Bolivia leads to the conclusion that Brazil has found the balance between own needs and the needs of other actors in the gas industry, whereas the other two countries have not.

A comparative research design simplifies the picture of reality and there is always the risk that decisive factors have been left out of the analytical model. The findings in this study do nevertheless demonstrate clear differences between successful and unsuccessful countries, strengthening the main theoretical assumptions and, most importantly, giving fruitful insight and answers to the research question.

This study initially started with the question: What can explain states' goal attainment in the natural gas sector and the differences in such goal attainment between states? A theoretical framework was then outlined based on implementation theory, governance model theory and integration theory. Three case studies were conducted, structured according to the theoretical framework and the results of the case studies were analysed in a comparative analysis.

The comparative analysis showed that particularly two factors can explain states' goal attainment in the natural gas sector. First of all stability in the governance model turned out to be essential for the ability to attain goals in the three cases. Changes in the governance model send signals of instability and uncertainty to investors, importing countries and industry and can make these actors reluctant to contribute to the development of the gas sector. Small changes may work, but an abrupt change to a very

non-proprietary or a very proprietary governance model can lead to little goal attainment, and did so in the countries in this study.

Brazil did not change to an extreme non-proprietary model in the 1990's, as Argentina and Bolivia did. This made Brazil able to maintain control of the gas sector and develop holistic and long-term politics in the sector. If the state gives all the control in the gas sector to the market, it is very difficult for the state to intervene if the development in the sector is not seen as beneficial to the population. From this study it can be concluded that a very non-proprietary governance model makes it harder for the state to attain its goals in the natural gas sector, especially if the goals are social political. But it is also clear that it is not an advantage with an extremely proprietary model, particularly if the country does not have high amounts of capital and gas sector expertise.

This leads to the second factor that can explain goal attainment in the natural gas sector. The skills and commitment of implementing officials and agencies are crucial for the implementation of goals. This study has shown that where there is an implementing gas company that has international experience, skilled and experienced officials among both administrative and technical staff, and that is loyal to the state and the democratic political process, goal attainment is much more likely. The effect is especially strong for goals that require increased production and transportation of gas.

The cases in this study are all from the Southern Cone region and the results are therefore not automatically transferrable to countries in other regions. It is nevertheless possible to make some general remarks. It is likely that other gas-rich countries can learn from this study when they decide how to regulate their gas sector. Countries with the same social political challenges as the countries in this study; poverty, corruption and inequality, should notice that keeping some state control of the sector will increase the possibility to attain different categories of goals. Avoiding a completely non-proprietary governance model gives the state the opportunity to develop a national gas company with skills and experience that can cooperate with both international companies and the government in developing policies in the sector to the benefit of the country and its population.

Brazil has managed to succeed with Petrobras, but Bolivia has not had a good start with the re-creation of YPFB. This shows that even if the natural gas sector is distinguished, it

is not a sector that exists separate from the rest of the society and the political processes in the country. The production and distribution of gas can be successful without benefiting the country or the population if good measures against corruption and inequality are not part of the policy implementation process. This is not unique to the Southern Cone countries and it is an area where countries can learn from each other.

Regional integration in the gas sector was not a part of the original research question, but through the case studies and the research leading up to the analysis, it became clear that the interdependence in the sector between the three case-countries, and its implications for cooperation, were too important to leave out of the analysis. The countries do recognise that the special characteristics of natural gas and its economy make integration in this sector beneficial for themselves and their neighbours. Nevertheless, the shared perception and agreement of mutual interest in gas integration has so far not been enough to move the integration process to the point where an institution of joint policy implementation has formed, and concrete agreements have mostly been signed bilaterally with varying success.

An acceleration of the integration process in the gas sector in the Southern Cone would lead to goals on a regional level, and the countries would have to cooperate to reach them. Drawing on the results of this study, it would be natural for Brazil to lead such cooperation, guiding the integration process towards goal attainment. Whether this would be accepted by the other countries in the region would depend on the role of their own industry and national gas companies. It is unlikely that Argentina and Bolivia would let Petrobras be in control of the process unless Enarsa and YPFB are allowed to develop, grow and expand within the framework of integration.

One of the aims of this thesis was to combine theories from different areas of political science and use them to study empirical cases from a region that has not frequently been used in theory development in the area of policy analysis. Given the interesting findings in the analysis, I find that the combination of theories has been successful and can also be recommended for similar studies of the gas sector in other geographical regions. Combining theories on policy analysis, sector specific governance and integration has completed the theoretical framework for this study of a sector that is both national and

international at the same time. By studying countries in the same region in the Global South, the similarities between the countries on a general basis are greater than the differences; something that strengthens the value of the comparative analysis and thus the learning value the study can potentially have for the case countries.

This study has demonstrated that it is both possible and fruitful to use theories developed in Western Europe and the USA when studying political processes in the Global South. Sometimes, as shown in the analysis of integration in the gas sector, the countries in the South have some characteristics that are different from what the classical theories assume. With slight modifications, the theories are nevertheless relevant and further theoretical development should include more cases like these, cases that challenge the given assumptions and contribute to seeing national and international policy processes in combination. For further studies of the integration between the countries in the Southern Cone, this thesis would at least be able to contribute with a piece of the picture, explaining why goal attainment in the gas sector varies between countries and how this influences regional energy integration.

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